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PUBLIC HEALTH DEPARTMENT,
 JOHNSTON TERRACE,
 EDINBURGH, June 1929.

MY LORD PROVOST AND GENTLEMEN,

In presenting the Annual Report for the City for the year 1928 it is gratifying to know that our records continue to improve. A death-rate of 13·7 for a population of nearly half a million is a very satisfactory figure ; but the congested areas still tend to sully our vital statistics. For instance, the death-rate of the whole City is 13·7 per 1000 of the estimated population, whilst the figures for St. Giles, St. Leonard's, St. Andrew's, and North Leith Wards were 18·5, 16·2, 15·7, and 17·2.

The low figure of 17·3 per 1000 of the population was the Birth-rate recorded for Birth-rate. the City. In the census year of 1861, the figure was 33·4. Since 1871 the birth-rate has gradually fallen, and only during the war period in 1917 and 1918 did the figures reach lower levels than the present. With the low birth-rate now prevailing the need to preserve the lives of the babies that are born becomes the more clamant. It is highly satisfactory to know that the Infantile Mortality figure for 1928—75 per 1000 births—was the lowest ever recorded for the City. It is only fair to state, however, that equally favourable declines are shewn for the country as a whole.

That fact is probably accounted for by the low birth-rate on the one hand, and on the other by the concentration of effort now being exerted by Maternity and Child Welfare Departments and other agencies to preserve the lives of the young, and to maintain supervision over expectant and nursing mothers. There is room yet for the development of Ante-Natal work in the City, and this is not being lost sight of by the Public Health Committee. The appointment of four whole-time assistants in connection with the Maternity and Child Welfare Services has already proved its wisdom, since uniformity of method and continuity of service have been assured.

The ladies were carefully selected because I knew they had done good work elsewhere. Personality goes a long way in serving the public, and that applies to preventive medicine as well as in every other sphere of work. The four ladies have gained the confidence of the mothers ; the numbers attending the various clinics have increased, and visits to the homes of patients have been multiplied. In their capacities as advisers and guides to better methods I am of opinion that the four officers concerned will more than pay their way. It will only be by sustained educational effort that Infantile and Maternal Mortalities can be reduced to lower levels, because neither doctors nor nurses can do more than give skilled advice, which will be of value if it is put into practice.

The important bearing of good housing on the health of the children is so well Housing and Diseases of Children. recognised that it need not be stressed. Examples of improved health have already been demonstrated at the various housing schemes that have been completed. The almost magical effect of a sojourn in a convalescent or holiday home on children who have been removed from slums and overcrowded houses offers another lesson that cannot be ignored, especially when the relationship between bad housing and child welfare is discussed. In the not far distant future it is to be hoped that more accommodation will be provided for many of the children who present themselves at the various clinics for advice and treatment. The doctors in attendance can tell at a glance which of these youngsters urgently need fresh air, wholesome food, and freedom for exercise. In the absence of such provisions recourse is had to the prescription of Cod Liver Oil, Milk, and other remedies. Drugs and medicines become palliatives, because faulty home conditions often retard recuperation from ill-health.

Lack of suitable nourishment is also a serious handicap to the children who live in the poorer localities. In the first place, the mother cannot afford to purchase a variety Cookery Lessons. of food-stuffs ; secondly, she has never been taught to understand that certain essential

substances should enter into the dietary of every growing child ; and thirdly, even if she had the desire to prepare suitable meals, the facilities for doing so are inadequate. With that knowledge in our possession the establishment of Cookery Classes was introduced last year.

The outstanding features of this scheme, which has been worked in conjunction with the Maternity and Child Welfare Service, have been the enthusiasm shewn by the working-class mothers, their keen desire to learn, and the great varieties of simple yet sustaining dishes that can be prepared at what one can truly call ridiculously low costs. It has not been a question of offering any kind of cheap meat or other food. Rather has it been the desire to introduce into the daily dietary such neglected substances as peas, beans, rice, lentils, vegetables, and macaroni. Meat has not been neglected, but the value of the simpler articles in the form of food accessories, has been constantly stressed and regularly demonstrated.

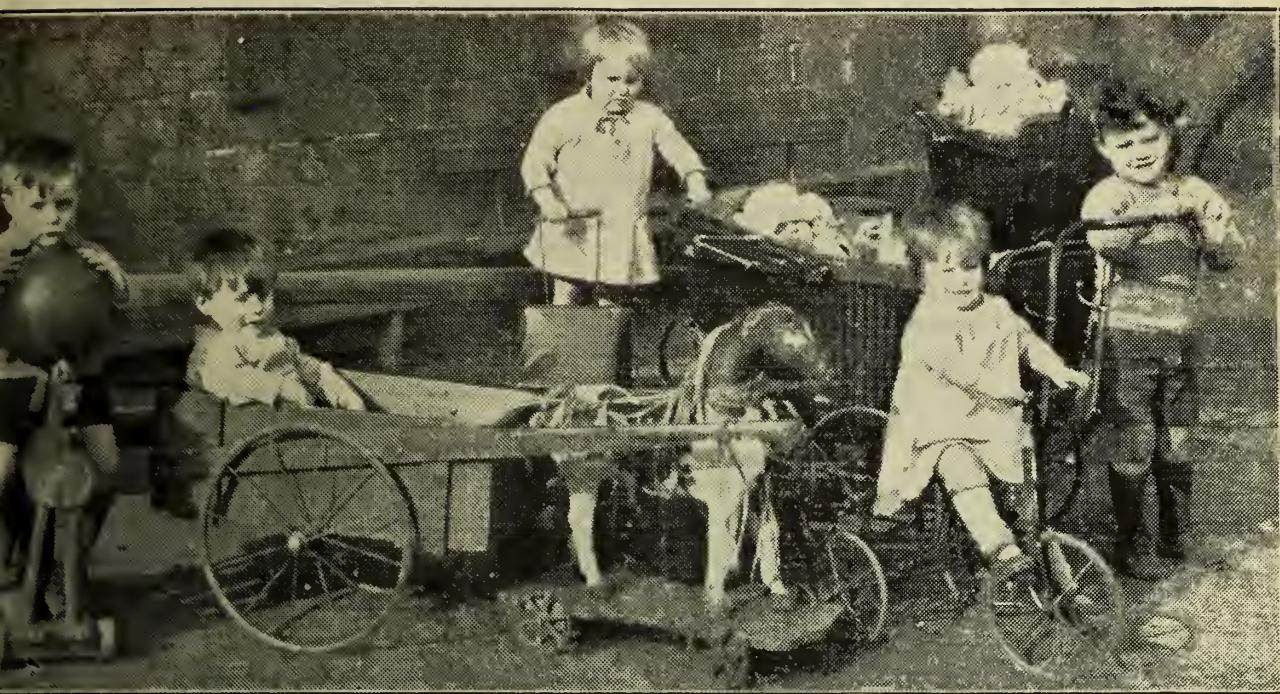
COOKERY "CLINIC."



Class of Women receiving instruction in the preparation of simple meals.

But perhaps the most noteworthy feature has been the preparation of the various meals on an open fireplace, with the most elementary appliances. Gas cookers and specially devised ovens do not find a place in the houses of many of the low wage earners. The success of those cookery lessons has been the means of inspiring many housewives with the desire to go further, and both husbands and children have been enthusiastic supporters of the mothers' efforts. We were again fortunate to have Miss Gilmour as a teacher. Her enthusiasm is unbounded.

The following offers an example of a typical daily practical demonstration in which the women personally take part. Broth, or lentil soup, steak pudding, rice with mince and cabbage ; stuffed meat, macaroni and mince ; apple dumpling, milk pudding, rhubarb pudding ; girdle scones. It is surprising what can be done when the cook is armed with knowledge. The taste for simple things can be cultivated, as these



Children find a safe playground by the "clinic" while their mothers are engaged within.



Instruction in cooking at ordinary open fireplace.

demonstrations have proved. One of the aims of these Cookery lessons was to provide the housewives with a list of dishes which they could prepare with far greater ease and confidence when they found themselves more fortunately and conveniently housed.

Considerable space has been allotted to this subject because the value of rational feeding cannot be over-estimated. One is apt to think of preventive medicine as something dealing exclusively with germs, microscopes, and elaborate investigations, but when we come down to bedrock we are forced to admit that good housing conditions and good food offer the most stable foundations upon which the prevention of disease may be established.

Photographs of the Cookery "Clinic" appear on pages iv. and v., and I am indebted to the Editor of the "Evening Dispatch" for the use of the blocks.

Housing Schemes. Since I took office four Improvement Schemes have been initiated and nearly two thousand houses have been involved. More than half of these houses have been demolished. There is still much to be done, but we cannot go faster than the builder. It would be fruitless to condemn and demolish inhabited places until alternative accommodation was provided for the dispossessed.

Until the new recommendations are proclaimed for dealing with the Slum problem it will be rash to offer criticisms. It may be permissible to say, however, that any suggested re-conditioning scheme to relieve the slum situation will have to be very carefully considered. Especially will that proviso apply to Scotland.

Housing conditions differ in Scotland and England. The old type of tenement with its long dark passages, gloomy, ill ventilated lobbies, and centrally placed stairways does not prevail in England. When re-conditioning of such properties is suggested, a difficult problem is presented to the architect, who generally finds that it is every bit as costly to gut and re-condition old properties as it is to build new houses. Also in Scotland we find out-of-date tenements generally situated in our most congested areas.

The re-conditioning of houses in rural areas and in wide thoroughfares with open spaces round about them may contribute in a small way to the housing shortage difficulty. One cannot, however, see much light thrown on the subject when re-conditioning is suggested for Scottish tenements of the old types.

One way to save the children and to make them disease resisters is to provide them with space for recreation. It will be difficult to offer them fresh air, play-grounds, and sunshine in our central areas.

Re-conditioned houses, if they can be cheaply created, may serve a useful purpose because they may provide accommodation for old couples, single persons, and childless folk. For growing children the outlying areas are the places for housing schemes. Lochend and Prestonfield offer excellent examples of that policy.

Housing and Health. Our statistics prove without any question that the worst figures are recorded in those wards where the largest numbers of single and two-roomed houses prevail.

St. Giles has 1142 single-roomed dwellings, and 1694 of two rooms. The death-rate in St. Giles is 18.5, the highest of any ward in the city. The Tuberculosis rate is also one of the highest, and the Infantile Mortality rate is easily the highest, while the rate for Epidemic Diseases is conspicuously high. The nearest approach to St. Giles is St. Leonard's Ward, where the statistics are also unfavourable.

In St. Leonard's there are 1,206 single-roomed houses, and 2,484 of the two-roomed type. While density of population plays a big part in bringing about these unfavourable results, it is overcrowding of population in the houses themselves that is of far greater consequence.

Those who are fortunate enough to occupy dwellings having three or four or more apartments must wonder how families of children can be successfully reared and defended against illness in one- and two-roomed habitations of the slum types. It is practically impossible to do so. The one- and two-roomed houses we encounter in slum areas are totally devoid of the amenities and conveniences that are expected in houses that are suitable for occupation. As long as we have one- and two-roomed houses of very low standards in our cities, so long must the work of Maternity and Child Welfare organisation continue to be an uphill one.

It is well that concentration of effort should be wholly directed at Slum Clearance Schemes. It is comparatively easy for a Medical Officer of Health to condemn houses because there are so many that fall under the category of being unfit for human habitation ; but it is difficult to provide alternative and equally cheap accommodation. Many citizens have gladly seized the chance to change over into well-equipped municipal houses. They have had their innings. The slum-dweller must now have his turn. Those who can afford to pay economic rents should not look to Corporations to provide houses for them. They should get into touch with Building Societies or private agencies which are always prepared to advance money under favourable conditions.

These much to be desired establishments have been slow in materialising. They Hostels for Men and Women. are now taking definite shape. Well-conducted hostels will quickly reveal the demand that there has been for lodgings where good food, clean beds, and comfort will be assured at inclusive and surprisingly low costs.

One or two very striking facts are cited by Dr. Guy in his report on Tuberculosis. Tuberculosis. First, there were fewer notifications of the disease than have ever been noted. Similarly, the numbers of those who died from Pulmonary Tuberculosis were the lowest that have been recorded. In the year 1900, for instance, the total deaths numbered 548, whereas in 1928 the deaths in the City alone, that is apart from Leith, were only 240. Thus in twenty-eight years there has been a fall of over 50 per cent. in the deaths from this malady.

Equally satisfactory are the figures for non-pulmonary tuberculosis, which were 270 in 1900. They declined to 103 in 1928 for the extended City.

That preventive efforts have been successful has been abundantly proved. When the slums are cleared and when better facilities for enjoying fresh air are provided, further declines will take place, especially if the citizens study their feeding methods more carefully, and include wholesome milk in the dietaries of the rising generation.

Only 8 deaths were caused by Scarlet Fever during the past year. This death-rate Scarlet Fever. is the lowest ever recorded for the City. The mild character of the disease is mainly accountable for that satisfactory state of affairs ; but one must not forget the skill and care of those responsible for the nursing and treatment of cases sent to hospital. Considerable economies have been effected in the treatment of Scarlet Fever during the past few years, since greater numbers are now being treated in their own homes without disadvantage or risk to other members of the household or the community.

The lowest death-rate recorded in the City since 1912 applied to Diphtheria. Diphtheria. Immunisation among school and pre-school children is being steadily continued by my assistant, Dr. Grierson. But to conduct this branch of preventive work on an intensive and comprehensive scale one operator can do comparatively little among the thousands of scholars who should be protected.

In carrying out this work the valuable co-operation of the various headmasters and their staffs has been greatly appreciated.

In his interesting report Dr. Lees shews how well the efforts of his Department Venereal Diseases. are being sustained to cope with a difficult social problem.

The lady almoner, Mrs Marshall, indicates some of the difficulties that confront her and the Clinical Medical Officers in their efforts to control and treat this malady.

Administrative officers are generally agreed that some form of compulsion is urgently required to enable them to rope in those who, despite every effort, positively refuse to complete their cure.

I can fully support Dr. Lees in his plea for more accommodation for indoor treatment. It is safe to say that his desires will be met in the immediate future.

Dr. Lees very rightly lays emphasis on the need for exercising great care over the eyes of new-born infants. I quote his sentence, "The number of cases (Ophthalmia Neonatorum) in whom the risk of blindness is incurred in infancy is much too large, and certainly does not shew a progressive decline such as one would expect with modern knowledge and teaching." That is a considered statement from one who treats children threatened by loss of eyesight, because adequate precautions had not been taken to protect them.

Special Investigations. In addition to the routine work conducted by Professor Mackie and his staff, special researches have been carried on throughout the past year. The co-operation between the University Bacteriological Department and the City has proved doubly valuable because it has given us ungrudging service, while the municipality has provided the University with valuable material for teaching.

Professor Mackie has summarised the vast amount of work that he and his assistants have performed. The time is near at hand when all the Bacteriological services of the City must be placed in the hands of the Professor of Bacteriology. At present a good deal of unnecessary diffusion of energy holds good. This also leads to needless expenditure.

Reference to Professor Mackie's report will indicate how much has actually been done to clear away doubts and to investigate particular conditions. Without the co-operation and close relationship existing between the two Departments, much of that interesting work would have been left undone.

The Outbreak of Paratyphoid in the Corstorphine district led to the examination of the sewage of the area, with highly suggestive results, which were published. The ascertained value of Virulence Tests in Diphtheria infections was another effort that proved of great help to this Department, because we were able to dissociate those who were likely to endanger the health of others from individuals who were not likely to be sources of danger.

The contribution on the subject by Professor Mackie is of vital interest to preventive officers,—the illustration he gives of the virulent and avirulent "carriers" being a most convincing one.

Local Immunisation was another problem that was tackled with results that are *sub judice* because Doctors Grierson and Percival are still engaged on their work. Dr. Grierson, my present assistant, is now busying himself with a critical bacteriological examination of the Water of the Municipal Swimming Baths. This is a big question demanding most careful investigation because there are so many side issues to it. When the full report is complete it is intended to submit recommendations to the Committee responsible for the control of the baths in the City.

Rheumatic Infection has deservedly taken a prominent place in preventive medicine, and in the near future much greater attention will be given to those who are recognised to be suffering from the disease, especially in its earliest stages. For that reason the work of Doctors M'Lachlan and Begbie merits careful study, as also does the suggestive investigation relative to the sensitisation experiments in Scarlet Fever. With Professor

Mackie inspiring his staff as he is doing, there need be no fear of our losing sight of the problems that call for investigation in so far as they relate to preventive medicine.

During the year a very complete and detailed enquiry was made regarding Dermatitis as it affects Bakers. This investigation was carefully conducted by Mr Hood, the Factory and Workshops Inspector, each individual case being followed up and examined. The resulting report was a very long one and every avenue was explored to discover a common cause of this condition of the skin. It was interesting to hear the different theories that were advanced by masters and men, because their reflections and conclusions were suggestive and valuable. Scottish Bakers do not appear to suffer to the same extent as their fellow-workers in England. Susceptibility plays a very big part in exciting Dermatitis into being. Careful and methodical washing of the hands and arms appear to offer the best safeguards against the skin irritation that compels some men to give up baking, because a return to work excites a renewed outbreak of the eruption. The master bakers offered every assistance while the investigation was being conducted, and shewed a keen desire to provide means for preventing the disability. In all bakehouses and in some of the allied trades it is now compulsory to install suitable wash-hand basins and clean towels.

All the municipal hospitals are now supplied by high quality milk produced by a municipally-owned herd of tested cows. It is gratifying to be able to make that announcement. The accomplishment of such a reformation is something of which the Local Authority has reason to be proud. It is better to have things done than to talk about doing them. And the hands of the Local Authority are considerably strengthened when it can urge other producers to go and do likewise.

In spite of the disturbing report issued by the Medical Research Council, we continue Ultra Violet Ray Therapy. to find Ultra Violet Rays of benefit. Especially does this apply to patients suffering from various forms of non-pulmonary tuberculosis. People who suffer from discharging sinuses, enlarged glands, and lupus do not find themselves improving in health under mental influences, as has been suggested. They see their wounds closing and feel their disabilities yielding to the treatment prescribed either in the form of Open Arc or Mercury Vapour Lamp irradiation.

The one obstacle to the greater success of this form of Ultra Violet Therapy is the lack of exposure to fresh air currents. If the rays could be shed on unclad patients while they were in the open air, more rapid and probably more lasting results would be secured. It would be difficult to achieve this ideal in our variable and trying climate.

It is a fact that Ultra Violet Rays have produced some strikingly good results among mentally backward children. This subject is being followed up in connection with the Child Welfare Clinics.

This work has been carefully performed by Dr. Grierson. Unfortunately from the traders' point of view the traffic at Leith has been comparatively small. This has protected us from the risks of imported dangerous diseases. Should trade revive and expand once again, the arrivals of bigger vessels from foreign countries, more especially Eastern countries, will be more regular, and this will entail greater vigilance and more constant supervision. Apart from the control of disease, the work of the Sanitary and Veterinary Staffs is constantly going on, the respective Departments being in close touch with one another. The actual work done has been tabulated, and will be found under the respective headings in the body of this Report.

The encouraging results of the Health and Hygiene Exhibition which was held last year in the Waverley Market, has prompted the Public Health Committee to embark upon a more ambitious educational venture. The next Exhibition will be held in March

Bakers'
Dermatitis.

Milk from
Tubercle-
Free Cows.

Ultra Violet
Ray Therapy.

Port Medical
Inspection.

Health
Propaganda
and
Education.

1930. As on the previous occasion every branch of preventive medicine will be illustrated and explained. A gratifying feature of the first Exhibition was the close attention paid to the Dietetic Section which was particularly well arranged and explained by Dr. Guy and his staff. Seeing is believing. The 120,000 people who visited the Exhibition saw what was actually being done by Housing, Water, Gas, Electricity, Maternity and Child Welfare, Tuberculosis, and Veterinary Departments to serve the citizens. The value of Milk as a food was brought into great prominence. Still more will be done to attract attention to this invaluable and neglected commodity.

There is little need to say more in this part of the report. The tables and statistics are given in full and merit study.

Once again I express my gratitude to the heads of the various Departments for their co-operation, and to the Convener and Members of the Public Health Committee for their encouragement and whole-hearted support.

I am, My LORD PROVOST and GENTLEMEN,

Your obedient Servant,

WILLIAM ROBERTSON, M.D., D.P.H., F.R.C.P. (Ed.).

SUMMARY OF STATISTICS

For the Years 1924, 1925, 1926, 1927 and 1928.

	1924	1925	1926	1927	1928
Population Estimated to middle of year	419,291	421,968	424,025	425,147	428,454
Area of City—Acres	32,526	32,526	32,526	32,526	32,526
Density of Population—Persons per acre	12·9	13·0	13·0	13·0	13·2
Houses Inhabited	101,625	102,431	103,222	104,488	106,325
Marriages Registered	3,963	4,065	3,823	3,861	3,760
Birth-rate	20·9	19·6	19·6	19·0	18·6
Do. (Corrected for Country Births)	20·0	18·6	18·7	17·9	17·3
Death-rate (Corrected for Country Deaths)	15·0	14·5	13·5	14·3	13·7
Infantile Mortality	89	96	80	80	75
Cancer Death-rate	1·6	1·6	1·5	1·7	1·6
Phthisis Death-rate	1·0	1·0	·8	·9	·8
Epidemic Diseases Death-rate	1·0	1·1	·5	·5	·6

* Includes Enteric Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, and Diarrhoea and Enteritis under 2 years.

Note.—Further detailed statistics for a series of years are shewn in the Tables throughout this Report.

VITAL STATISTICS

AND

REPORTS RELATING TO TUBERCULOSIS, CITY HOSPITAL, CHILD WELFARE,
BACTERIOLOGICAL EXAMINATIONS, VENEREAL DISEASES, PORT
MEDICAL INSPECTION, SANITARY DEPARTMENT, VETERINARY
DEPARTMENT, ETC.

POPULATION.

The population estimated to be resident in the City of Edinburgh as calculated by the Registrar-General for Scotland is 428,454, being an increase of 3,307 on last year's figure.

As I have explained in previous Reports, the estimate is based on the number of occupied houses at Whitsunday, with an adjustment for the movement of population due to emigration and other causes.

Adopting the Registrar-General's estimate for the whole City, the population has been allocated to the different areas as under :—

Area.	Males.	Females.	Total.	Acres.	Persons per Acre.
Edinburgh .	141,204	175,048	316,252	10,877	29·1
Leith .	39,741	41,865	81,606	1,641	49·7
Suburban .	14,876	15,720	30,596	20,008	1·5
	<hr/> <u>195,821</u>	<hr/> <u>232,633</u>	<hr/> <u>428,454</u>	<hr/> <u>32,526</u>	<hr/> <u>13·2</u>

The distribution of the population throughout the twenty-three Wards into which the City is divided is given in the Table on page 9. It will be noted that the number of persons resident in Institutions and Military Quarters are excluded from the Ward populations, and are shown under separate headings. This makes for greater accuracy so far as the vital statistic rates relative to the respective Wards are concerned.

Inhabited Houses.—The following Table, for which I am indebted to the Burgh Assessor, shows the number of occupied houses, including those with other premises

attached, at Whitsunday 1928. The total number of such houses was 106,325, as compared with 104,488 in 1927, an increase of 1,837.

NUMBER OF DWELLING-HOUSES OCCUPIED AT WHITSUNDAY 1928.										
	Ward.	Under £5.	£5 and under £10.	£10 and under £15.	£15 and under £20.	£20 and under £30.	£30 and under £40.	£40 and under £50.	£50 and upwards.	Total in each Ward.
1.	Calton . .	6	309	1,322	1,466	1,573	492	136	175	5,479
2.	Canongate . .	63	1,065	1,553	1,093	1,240	273	120	31	5,438
3.	Newington . .	3	158	322	450	1,067	655	418	1,751	4,824
4.	Morningside . .	1	39	60	151	1,022	1,718	1,528	1,883	6,402
5.	Merchiston . .	...	26	237	539	2,043	1,462	450	958	5,715
6.	Gorgie . .	16	99	1,640	1,542	1,596	364	124	63	5,444
7.	Haymarket . .	4	148	416	355	1,159	541	206	1,509	4,338
8.	St. Bernard's . .	21	347	508	409	1,162	1,082	178	847	4,554
9.	Broughton . .	7	165	578	835	1,122	654	313	268	3,942
10.	St. Stephen's . .	16	529	790	809	1,042	528	322	578	4,614
11.	St. Andrew's . .	22	844	643	325	248	104	67	666	2,919
12.	St. Giles . .	40	1,376	1,574	633	806	146	68	88	4,731
13.	Dalry . .	1	242	2,041	1,848	1,056	50	8	2	5,248
14.	George Square . .	22	763	1,125	816	1,281	518	253	254	5,032
15.	St. Leonard's . .	59	1,798	2,062	902	654	232	114	42	5,863
16.	Portobello . .	7	252	527	905	1,978	959	570	591	5,789
17.	South Leith . .	2	264	1,423	2,056	2,583	344	172	122	6,966
18.	North Leith . .	11	850	1,809	985	547	99	35	36	4,372
19.	West Leith . .	6	592	1,099	590	703	622	347	749	4,708
20.	Central Leith . .	1	302	1,599	664	514	87	35	18	3,220
21.	Liberton . .	61	418	775	165	207	161	139	230	2,156
22.	Colinton . .	20	238	405	154	149	162	109	378	1,615
23. {	Corstorphine and Cramond }	34	301	262	257	392	680	405	625	2,956
	Total . .	423	11,125	22,770	17,949	24,144	11,933	6,117	11,864	106,325
Edinburgh Area . .		288	8,160	15,398	13,078	19,049	9,778	4,875	9,706	80,332
Leith Area . .		20	2,008	5,930	4,295	4,347	1,152	589	925	19,266
Suburban Area . .		115	957	1,442	576	748	1,003	653	1,233	6,727

In comparing the distribution of the houses throughout the City with that of the previous year, it is found that in sixteen Wards there have been gratifying increases in the number of occupied houses, while in seven instances decreases, due chiefly to Slum Clearance Schemes, have to be recorded. The Wards showing the principal increases were as follows :—

Haymarket	511	Gorgie	142
South Leith	317	West Leith	88
Portobello	259	Morningside	69
Corstorphine and Cramond	203	Liberton	68
St. Bernard's	177	Colinton	54

The following Table gives a general survey of the increase which has taken place in the population of the City since 1861, and also shows the number of births and deaths with the rates per 1,000 of the population. The infantile mortality is also given for the first time.

The figures throughout the Table have been corrected, where necessary, to remove errors in estimating the population for intercensal years.

Years.	Population.	Deaths.	Rate per 1000.	Births Registered.	Rate per 1000.	Infantile Mortality.
†1861	170,444	3946	23·1	5694	33·4	135
†1871	196,979	5484	27·8	6874	34·8	151
†1881	228,346	4308	18·8	7360	32·2	128
1882	232,602	4292	18·4	7351	31·6	121
*1883	239,910	4275	17·8	6844	28·5	128
1884	242,802	4556	18·7	7481	30·8	135
*1885	245,447	4241	17·2	7372	29·9	120
1886	248,121	4555	18·3	7451	30·0	136
1887	250,824	4824	19·2	7641	30·4	137
1888	253,264	4374	17·2	7500	29·6	128
1889	256,318	4415	17·2	7414	28·9	133
*1890	259,110	4999	19·2	7177	27·6	144
†1891	261,225	5257	20·1	7382	28·2	138
1892	265,573	4746	17·8	7169	26·9	135
1893	269,105	4830	17·9	7434	27·6	148
1894	272,683	4350	15·9	7207	26·4	125
1895	276,309	5246	18·9	7402	26·6	152
1896	279,983	4275	15·2	7610	27·1	122
*1897	297,198	5782	19·4	7990	26·8	164
1898	301,305	5320	17·6	8097	26·8	141
1899	305,468	5396	17·6	8218	26·9	147
*1900	309,688	5396	17·4	8129	26·2	132
†1901	316,921	5633	17·7	7920	24·9	143
*1902	317,880	5113	16·0	7909	24·8	119
1903	318,219	4963	15·5	8112	25·4	117
1904	318,560	4995	15·6	7777	24·4	125
1905	318,777	4799	15·0	7741	24·2	124
1906	319,120	4868	15·2	7649	23·9	112
1907	319,464	4978	15·5	7504	23·4	121
1908	319,809	4690	14·6	7506	23·4	114
1909	320,282	5106	15·9	7410	23·1	113
1910	320,504	4651	14·5	7063	22·0	103
†1911	320,829	4652	14·4	§6507	20·8	115
1912	321,119	4701	14·6	6346	19·7	110
1913	321,645	4630	14·3	6243	19·4	101
1914	325,780	5025	15·4	6466	19·8	110
1915	323,388	5419	16·7	5851	18·1	132
1916	321,993	4812	14·9	5748	17·8	100
1917	320,116	4924	15·3	4913	15·3	123
1918	318,250	5090	16·0	4830	15·1	94
1919	316,390	5583	17·6	5612	17·7	117
1920	314,193	4442	14·2	7774	24·7	89
*†1921	420,264	6048	14·4	9028	21·5	96
1922	422,547	6447	15·3	8772	20·8	91
1923	422,169	5875	13·9	8662	20·5	82
1924	419,291	6312	15·0	8404	20·0	89
1925	421,968	6138	14·5	7843	18·6	96
1926	424,025	5710	13·5	7926	18·7	80
1927	425,147	6066	14·3	7621	17·9	80
1928	428,454	5872	13·7	7420	17·3	75

* City boundaries extended.

† Census year.

§ The Births from this year onward are corrected for transfer births, i.e., births to parents domiciled outwith the City are excluded, while births occurring to Edinburgh parents beyond the City are included.

MARRIAGES.

The total number of marriages registered in the City during 1928 was 3,760. Of these no fewer than 943 were what is known in Scotland as "irregular" marriages, i.e., by declaration before the Sheriff.

The marriages registered during each quarter of the year were as follows:—

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
795	865	1,211	889	3,760

As no information is available to show how many of the contracting parties were Edinburgh citizens, it would be useless to base any deductions on such data.

BIRTHS.

During the year, 7,985 births were registered in Edinburgh. After corrections had been made by excluding the births to parents domiciled outwith the City, and including the births to Edinburgh parents temporarily resident beyond the City, it was found that the actual number of children born to Edinburgh citizens was 7,420.

The birth-rate for the year was equal to 17·3, as compared with 17·9 for the previous year. A reference to the Table on page 3 will show that there has been an almost continuous decline in the birth-rate since 1920.

The following Table gives the number of births allocated to the City in each quarter of the year after corrections had been made for transfers :—

Quarter.	Total Births.	Legitimate.	Illegitimate.	Percentage of Illegitimate to Total Births.
1st .	1,863	1,747	116	6·2
2nd .	1,936	1,816	120	6·2
3rd .	1,813	1,687	126	6·9
4th .	1,808	1,694	114	6·3
Total .	7,420	6,944	476	6·4

The births are more fully dealt with in the Maternity and Child Welfare Section of this Report on page 55.

DEATHS AND DEATH-RATES.

The total number of deaths registered in Edinburgh during 1928 was 6,552. From this number, however, there had to be deducted 903 deaths of non-residents, which occurred chiefly in public institutions and nursing homes throughout the City. Particulars regarding these deaths were transmitted by the Registrar-General to the district of permanent domicile, and no further notice was taken of them so far as the statistics relative to the City were concerned.

On the other hand, intimation was received regarding the deaths of 223 Edinburgh citizens which occurred in different parts of Scotland, and these were included in the City records.

The net number of deaths to be allocated to the City after these corrections were made was 5,872, and the death-rate calculated on this figure is 13·7 per 1,000 of the estimated population.

The mortality rate for the year is ·6 per 1,000 less than that recorded in 1927, and ·5 per 1,000 less than the average of the preceding five years. The death-rates for the eight years since the amalgamation of the City with Leith and the Suburban Area are as follows :—

1921. 1922. 1923. 1924. 1925. 1926. 1927. 1928.

Death-rate per							
1000 of population .	14·4	15·3	13·9	15·0	14·5	13·5	14·3

The following Table shows the number of deaths registered in the City and the outward and inward transfers in each quarter of the year. The quarterly death-rates are also given, and these are calculated on the net number of deaths :—

Quarter.	Total Deaths Registered.	Transferred to other Districts.	Transferred from other Districts.	Net City Deaths.	Death-rates per 1000.
1st .	1,925	258	45	1,712	16·0
2nd .	1,678	234	60	1,504	14·0
3rd .	1,318	202	75	1,191	11·1
4th .	1,631	209	43	1,465	13·7
Total .	6,552	903	223	5,872	13·7

The distribution of the deaths according to the three areas of the City is given below :—

Area.		Number of Deaths.	Death-rates per 1000.
Edinburgh	.	4202	13·6
Leith	.	1114	13·8
Suburban	.	308	10·9
Institutions	.	234	....
Military Quarters	.	14	....
Whole City	.	5872	13·7

The following death-rates relative to the eight large towns in Scotland have been extracted from the Registrar-General's preliminary statement for 1928. The death-rate for the whole of Scotland was 13·3 per 1,000 of the population, as compared with 13·5 in 1927. The highest death-rate was that recorded for Greenock, viz., 15·7 per 1,000, while the rate for Dundee was 15·1. The death-rates for the other six towns varied from 10·8 in Clydebank to 14·8 in Glasgow.

	Rate per 1000 of Population.		Rate per 1000 of Population.
Glasgow	14·8	Paisley	13·1
Edinburgh	13·7	Greenock	15·7
Dundee	15·1	Motherwell and Wishaw	11·0
Aberdeen	14·0	Clydebank	10·8
Scotland	13·3		

The accompanying Table gives a summary of the principal mortality rates applicable to the various Municipal Wards, and also shows the density of population and the number of one- and two-roomed houses in each Ward :—

Ward.	Density of Population per Acre.	Housing.		Death-rate per 1000.			Infantile Mortality.
		1 Room.	2 Rooms.	All Causes.	Phthisis.	Epidemic Diseases.	
Calton	94·9	229	1,838	12·6	.9	.3	62
Canongate	22·4	531	2,308	12·5	1·0	.6	61
Newington	19·9	117	462	13·7	.5	.2	60
Morningside	15·3	13	157	15·2	.4	.1	31
Merchiston	30·1	37	755	14·9	.5	.2	40
Gorgie	33·3	61	2,424	10·9	.8	.6	82
Haymarket	17·1	154	498	11·7	.8	...	25
St. Bernard's	14·2	163	824	10·0	.5	.4	60
Broughton	31·5	164	1,112	12·9	.5	.3	64
St. Stephen's	88·5	438	910	14·3	.3	.3	39
St. Andrew's	52·0	723	753	15·7	1·3	.6	91
St. Giles	72·5	1,142	1,694	18·5	1·3	1·3	111
Dalry	113·3	227	3,195	12·6	.9	.3	71
George Square	82·8	610	1,574	13·9	1·2	.9	81
St. Leonard's	211·2	1,206	2,484	16·2	8	1·1	88
Portobello	11·3	101	1,166	12·1	.5	.5	79
South Leith	35·4	166	2,808	12·3	.8	.6	87
North Leith	87·7	516	2,088	17·2	1·2	1·2	100
West Leith	39·7	274	1,540	12·5	.5	.4	54
Central Leith	98·1	190	1,764	14·0	1·4	.8	86
Liberton	1·6	149	999	9·8	.7	.8	83
Colinton	1·2	72	583	10·2	.4	.2	12
Corstorphine and Cramond	1·4	57	515	12·3	.8	.3	68
Total—Extended Area	13·2	7,340	32,451	13·7	.8	.6	75
Edinburgh Area	29·1	5,916	22,154	13·6	.8	.5	70
Leith Area	49·7	1,146	8,200	13·8	.9	.7	85
Suburban Area	1·5	278	2,097	10·9	.8	.4	63

It is impossible to examine the statistics relative to the central Wards without being impressed by the high death-rates returned for overcrowded districts compared with the more favoured parts of the City.

It has been repeatedly pointed out in these Reports that the housing conditions in the central localities of the City are in many instances a menace to the health and well-being of the residents. In this connection it is interesting to note that no fewer than 2,348, or 32 per cent., of the total one-roomed houses in the City are situated in St. Giles and St. Leonard's Wards.

This type of house is usually to be found in overcrowded and sub-divided tenements, and as a rule the only access is off long, dark, and unventilated lobbies. The lavatory accommodation is common to a number of tenants, and the surroundings are generally of a most unsatisfactory nature.

In the circumstances it is not surprising that the Wards referred to consistently return high death-rates and excessive infantile mortalities.

Slum Clearance Schemes are in progress in both Wards. In St. Giles Ward many old and insanitary dwellings have already been demolished and the dispossessed tenants transferred to Corporation Housing Scheme Areas.

The first instalment of an extensive clearance scheme has also been sanctioned for St. Leonard's Ward, and will, when completed, effect a much-needed improvement in this district.

Ward Mortality.—The highest general death-rate in the City was returned for St. Giles Ward, viz.: 18·5 per 1,000 of the population estimated to be resident in the Ward. The mortality from Pulmonary Tuberculosis was 1·3, or ·5 per 1,000 higher than the rate recorded for the City. The deaths from Epidemic Diseases were also equivalent to a rate of 1·3 per 1,000.

The Infantile Mortality for St. Giles Ward was equal to 111 deaths per 1,000 births, and represents the highest Ward Infant death-rate.

In St. Leonard's Ward the general death-rate was 16·2 per 1,000. The Pulmonary Tuberculosis death-rate was ·8, while the Epidemic Diseases were responsible for a mortality of 1·1 per 1,000 of the population.

The Infantile Mortality for the Ward was 88. While the rate was 13 per 1,000 higher than the rate for the whole City, it is the lowest that has been recorded for this Ward since 1923, when the rate was 87.

St. Andrew's Ward, which has some unsatisfactory housing features, returned a general death-rate of 15·7, and a Pulmonary Tuberculosis rate of 1·3. The Ward was comparatively free from diseases of an Epidemic nature, a rate of ·6 being recorded. The Infantile Mortality was 91, as compared with 78 in 1927.

The general death-rate for George Square Ward was 13·9 per 1,000. The Pulmonary Tuberculosis rate was 1·2, and the Epidemic Diseases rate ·9. The deaths of infants under one year were equal to a rate of 81 per 1,000 births, as compared with 69 in 1927, and 68 in 1926.

All the other Wards in the Edinburgh area with the exception of Morningside (15·2), Merchiston (14·9), St. Stephen's (14·3), and Newington (13·7), returned general death-rates below the average for the City. The Infantile Mortality of 82 in Gorgie Ward, however, was the highest that has been recorded since 1921.

In comparing the mortality statistics for the Wards comprising the Leith area, it was found that the congested North Ward returned the highest general death-rate, viz.: 17·2 per 1,000. The Pulmonary Tuberculosis rate was 1·2, and the Epidemic Diseases rate 1·2. The Infantile Mortality of 100 was also high, and was only exceeded by the rate returned for St. Giles Ward.

The Leith Central Ward, although a somewhat congested area, returned a satisfactory death-rate, viz. : 14·0. The Pulmonary Tuberculosis rate of 1·4, however, was the highest Ward rate for this disease in the whole of the extended City. The Infantile Mortality for the Ward was 86, and is the lowest rate that has been recorded during the amalgamation period.

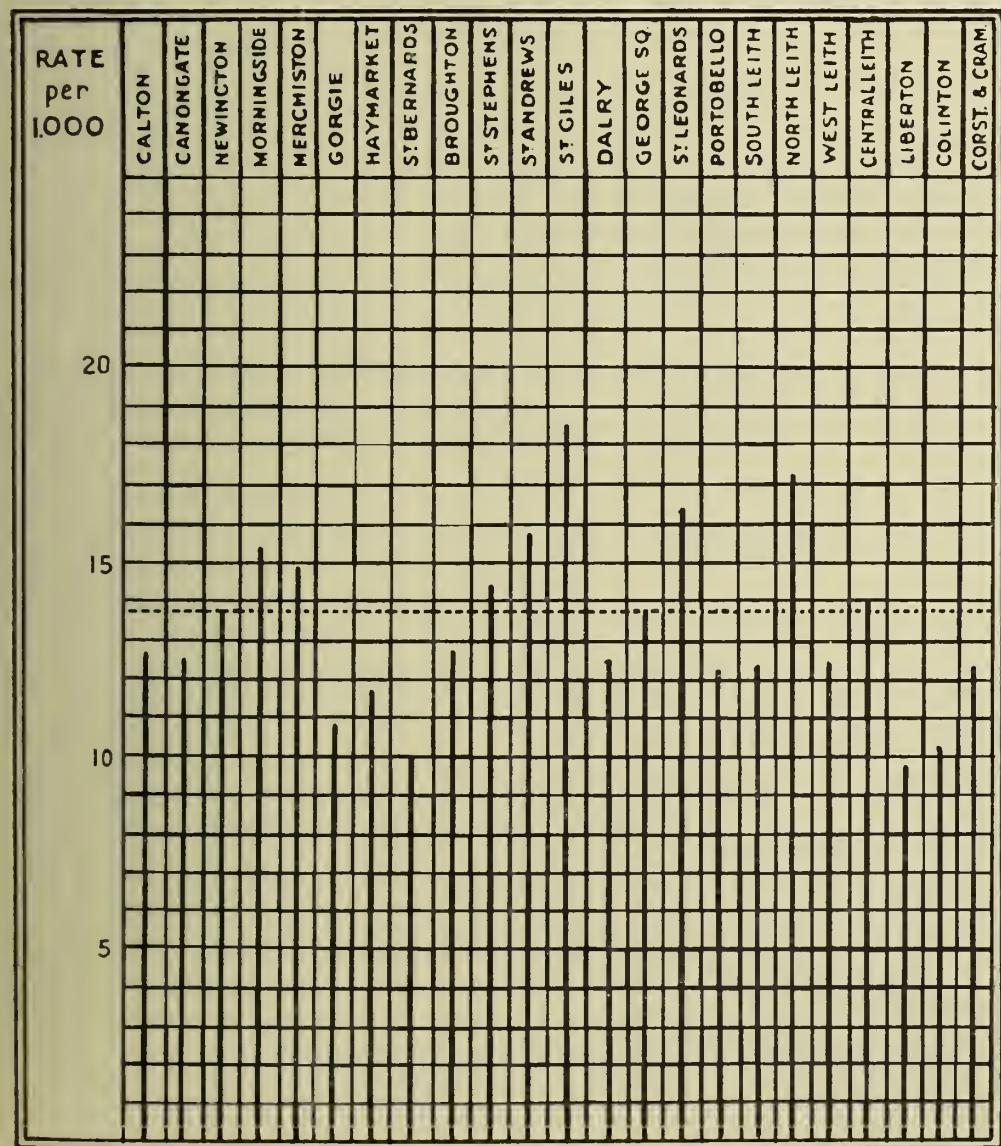
In the South and West Wards the general death-rates were below the City rate. The Infantile Mortality, however, was 87 in the South Ward and only 54 in the West Ward.

The three Wards comprising the Suburban area all show death-rates below the average for the City. The Infantile Mortality for the area was 63 deaths per 1,000 births, as compared with 70 and 85 for the Edinburgh and Leith areas respectively.

The following line diagram shows the death-rate experienced in each Ward, and on page 9, a Table will be found giving detailed particulars regarding the vital statistics relative to the Wards.

DEATH-RATE—ALL CAUSES.

PER 1000 OF POPULATION.



----- Death Rate for City

Slum Clearance Schemes.—Since 1923 four Slum Clearance Schemes have been promoted by the Local Health Authority. Steady progress is being made with the re-housing of the dispossessed tenants and the demolition of the old and insanitary

dwellings. When the various schemes have been completed and the squalid conditions so long associated with some of the properties scheduled are swept away, many of our pressing health problems in these localities will disappear.

The following figures, which refer only to the occupied houses scheduled in the schemes, have been kindly supplied by the Burgh Engineer. It will be seen from the Table that the early schemes are nearing completion, and as soon as housing accommodation can be found for the dispossessed tenants the St. Leonard's Scheme will be energetically dealt with.

IMPROVEMENT SCHEME AREA.	HOUSES.		
	Occupied Houses in Scheme.	Closed.	Demolished.
Cowgate-Grassmarket, 1923 . . .	467	458	364
Leith, 1924	566	565	382
Canongate-Corstorphine, 1927 . . .	147	84	73
St. Leonard's (1st Section), 1927 . .	724	234	...
Totals . . .	1,904	1,341	819

Housing Schemes.—During the year progress has been maintained in the erection of houses in the various Corporation Housing Areas. The total number of houses erected by the Corporation now amounts to 5,201, and 698 were in course of construction at the end of the year.

The accompanying figures, for which I am indebted to the City Architect, have been tabulated to show the building operations in the different Housing Scheme Areas.

HOUSING SCHEME AREAS.	NUMBER OF HOUSES.		
	Proposed.	Completed.	Under Construction.
Gorgie	718	718	...
Wardie	494	494	...
Abercorn	518	518	...
Gilmerton	28	28	...
Corstorphine	84	40	44
Davidson's Mains	42	34	8
Longstone	48	48	...
St. Clair Street (Easter Road)	66	66	...
Bangholm	33	33	...
Saughtonhall	516	516	...
Sheriff Brae, Leith	18	18	...
Lochend	1,444	1,444	...
,, (Shops and Houses)	23	...	23
Stenhouse Mills	740	724	16
(Shopping Centre)	24	...	24
Easter Road	60	60	...
Prestonfield	668	144	524
Portobello	34	1	33
Grassmarket (Block Dwellings)	24	24	...
Bungalows	141	141	...
Reconstructions	170	144	26
Demonstration Houses	6	6	...
Totals	5,899	5,201	698

Table showing the Population, etc., also the Births and Deaths in each Ward during the year.

WARD.	Estimated Population.	Area in Acres.	Density of Population per Acre.	Births.				INFANTILE MORTALITY.				DEATHS.			
				Number.	Rate per 1000.	Deaths.		Rate per 1000 Births.		PULMONARY PHYLISIS.		* EPIDEMIC DISEASES.		OTHER CAUSES.	
						Number.	Rate per 1000.	Number.	Rate per 1000.	Number.	Rate per 1000.	Number.	Rate per 1000.	Number.	Rate per 1000.
Calton .	21,639	228	94.9	369	17.0	23	62	21	.9	6	.3	247	11.4	274	12.6
Canongate .	21,580	965	22.4	512	23.7	31	61	21	1.0	13	.6	236	10.9	270	12.5
Newington .	17,809	891	19.9	183	10.3	11	60	10	.5	3	.2	232	13.0	245	13.7
Morningside .	20,809	1,358	15.3	161	7.7	5	31	9	.4	3	.1	306 *	14.7	318	15.2
Merchiston .	20,408	677	30.1	200	9.8	8	40	11	.5	5	.2	290	14.2	306	14.9
Gorgie .	22,526	676	33.3	415	18.4	34	82	17	.8	14	.6	214	9.5	245	10.9
Haymarket .	16,442	959	17.1	203	12.3	5	25	14	.8	..	..	179	10.9	193	11.7
St. Bernard's .	17,745	1,250	14.2	235	13.2	14	60	9	.5	7	.4	162	9.1	178	10.0
Broughton .	14,873	472	31.5	219	14.7	14	64	8	.5	5	.3	179	12.1	192	12.9
St. Stephen's .	16,807	190	88.5	280	16.6	11	39	5	.3	6	.3	231	13.7	242	14.3
St. Andrew's .	10,721	206	52.0	198	18.5	18	91	14	1.3	7	.6	148	13.8	169	15.7
St. Giles .	19,282	266	72.5	449	23.3	50	111	25	1.3	25	1.3	308	15.9	358	19.5
Dairy .	21,193	187	113.3	411	19.4	29	71	19	.9	7	.3	242	11.4	268	12.6
George Square .	20,529	248	82.8	334	16.3	27	81	26	1.2	18	.9	242	11.8	286	13.9
St. Leonard's .	21,964	104	211.2	559	25.4	49	88	17	.8	25	1.1	315	14.3	357	16.2
Portobello .	24,803	2,200	11.3	483	19.5	38	79	14	.5	12	.5	275	11.1	301	12.1
South Leith .	29,057	819	35.4	529	18.2	46	87	25	.8	17	.6	316	10.9	358	12.3
North Leith .	19,116	218	87.7	484	25.3	49	100	22	1.2	24	1.2	284	14.8	330	17.2
West Leith .	18,365	462	39.7	315	17.1	17	54	9	.5	7	.4	214	11.6	230	12.5
Central Leith .	13,938	142	98.1	303	21.7	26	86	20	1.4	11	.8	165	11.8	196	14.0
Liberton .	10,308	6,339	1.6	181	17.5	15	83	7	.7	8	.8	86	8.3	101	9.8
Colinton .	6,654	5,602	1.2	84	12.6	1	12	3	.4	1	.2	64	9.6	68	10.2
Corstorphine and Crandon .	11,335	8,067	1.4	134	11.8	9	68	9	.8	3	.3	127	11.2	139	12.3
Institutions .	8,406	...	...	137	...	20	...	9	...	13	...	212	...	234	...
Military Quarters .	2,145	...	...	42	...	3	...	1	...	2	...	11	14	14	...
Totals .	428,454	32,526	13.2	7,420	17.3	553	75	345	.8	242	.6	5,285	12.3	5,872	13.7

* Includes Enteric Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, and Diarrhoea and Enteritis under 2 years.

NOTE.—The Ward populations have been adjusted by deducting the population resident in the principal institutions and military quarters occurring in institutions are allocated to Wards, except in cases where a permanent domicile cannot be established. Births and deaths

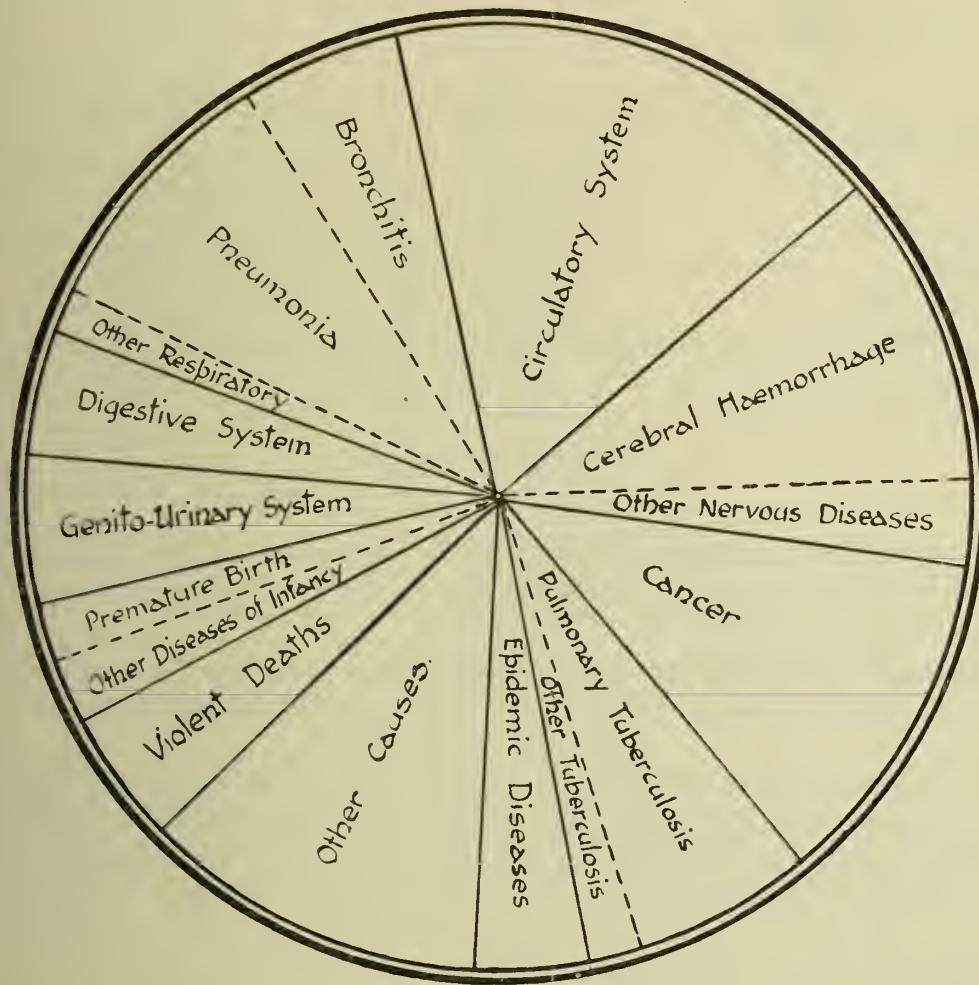
TABLE showing the number of Deaths (including Deaths transferred from other districts) and the Death-rates per 1000 of the Population during 1928 from all causes and from certain specified causes; also the Population, the number of Deaths and the Death-rates per 1000, at all ages and certain age-periods.

	Annual Death-rate per 1000	All Ages	Under 1 Year	1 and under 5 Years	Total under 5 Years	5 and under 10 Years	10 and under 15 Years	15 and under 25 Years	25 and under 35 Years	35 and under 45 Years	45 and under 55 Years	55 and under 65 Years	65 and under 75 Years	75 Years and upwards	Total above 5 Years
Age Distribution of Population	428,454	6,941	26,189	33,130	36,037	39,698	80,706	65,288	60,107	52,233	34,652	19,224	7,379	395,324	
Deaths from all Causes	5,872	553	291	844	88	54	226	273	346	572	929	1,283	1,257	5,028	
Annual Death-rate per 1000	13.7	...	...	24	1.4	2.8	4.2	5.8	11.0	26.8	66.7	170.3	12.7	119
Enteric Fever	·00	3	·	·	·	·	2	·	·	·	·	1	·	3	
Typhus Fever	·	·	·	·	·	·	·	·	·	·	·	·	·	·	
Smallpox	·	·	·	·	·	·	·	·	·	·	·	·	·	4	
Measles	·18	77	26	47	73	3	1	·	·	·	·	·	·	2	
Scarlet Fever	·01	8	·	·	·	6	6	·	·	·	·	·	·	1	
Whooping Cough	·19	80	33	46	79	1	·	·	·	·	·	·	·	17	
Diphtheria and Croup	·07	30	·	13	13	12	4	·	·	·	·	·	·	4	
Influenza (Sole Cause)	·02	9	·	·	·	·	·	·	·	·	·	·	1	9	
Erysipelas	·02	11	5	·	·	5	·	·	·	·	·	·	1	6	
Encephalitis Lethargica	·01	6	·	·	·	·	·	·	·	·	·	·	2	6	
Cerebro-Spinal Meningitis	·05	20	8	6	14	1	2	·	·	·	·	·	·	6	
Tuberculosis of Respiratory System	·81	345	4	7	11	2	7	80	69	70	54	38	12	2	
Tuberculous Meningitis	·10	44	9	16	25	8	·	6	3	1	·	1	·	19	
Tuberculosis of Intestines and Peritoneum	·06	26	1	6	7	1	·	5	6	·	2	2	1	19	
Other Tuberculous Disease	·08	33	1	4	5	3	1	5	3	5	5	3	3	28	
Malignant Disease	·160	687	·	3	3	·	1	4	12	39	106	202	205	115	
Rheumatic Fever	·06	25	·	·	·	2	7	7	3	·	·	3	1	2	
Meningitis	·07	29	10	3	13	4	·	·	·	·	·	·	1	16	
Cerebral Hemorrhage, Apoplexy, Hemiplegia	·146	627	·	·	·	·	·	·	·	·	·	·	237	214	
Other Nervous Diseases	·35	148	27	7	34	4	·	·	10	12	8	21	19	12	
Heart Disease	·206	882	·	3	3	3	4	5	24	27	34	80	159	254	
Other Diseases of Circulatory System	·29	124	·	1	·	1	·	·	1	3	1	1	1	16	
Bronchitis	·75	322	26	11	37	2	1	·	13	34	50	45	47	49	
Pneumonia (all forms)	·122	521	88	59	147	15	2	·	1	1	1	73	76	105	
Other Diseases of Respiratory System	·20	86	4	4	8	·	2	·	11	3	3	1	5	285	
Diarrhea and Enteritis	·15	65	38	·	1	1	1	·	5	3	3	1	5	3	
Appendicitis	·06	27	·	1	1	1	1	·	5	3	2	5	4	2	
Diseases of Liver (non-Malignant)	·13	57	3	·	3	·	·	·	1	1	3	13	12	15	
Other Diseases of Digestive System	·35	150	11	4	15	·	1	1	1	1	1	16	20	26	
Nephritis—Acute and Chronic	·46	196	·	1	1	1	2	·	10	6	12	29	51	33	
Other Genito-Urinary Diseases	·23	98	2	1	3	2	·	2	4	8	11	16	34	18	
Puerperal Sepsis	·05	20	·	·	·	·	·	·	4	9	6	1	·	20	
Other Diseases and Accidents of Childbirth	·09	38	·	·	·	·	·	·	4	10	·	·	·	38	
Diseases of Early Infancy and Malformations	·56	239	3	18	237	1	·	·	1	1	1	56	44	2	
Violent Deaths	·67	285	4	19	22	10	6	5	21	31	19	38	38	263	
All Other Deaths	1.29	555	19	12	31	12	6	7	31	38	51	273	119	253	

CAUSES OF DEATH.

A Table showing the deaths occurring in the principal disease groups will be found on the preceding page.

The relative proportion of the deaths assigned to some of these groups is shown in the following diagram :—



Epidemic Diseases.—The diseases allocated to this group include Enteric Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, and Diarrhoea and Enteritis in children under 2 years of age.

The mortality from the diseases enumerated above was 242, as compared with 219 in 1927, and 194 in 1926. The death-rate for the diseases taken collectively was ·6 per 1,000 of the population. The rate for 1927 was equivalent to ·5 per 1,000, the slight increase being accounted for by the greater prevalence of Whooping Cough in the early months of the year.

Three deaths were registered as due to Enteric Fever, and this was in keeping with the low mortality from this disease since 1915.

The increase in the prevalence of Measles which became evident towards the end of 1927 continued during the early months of the year under report. The number of deaths certified was 77, and all of these occurred in the first seven months of the year. The deaths registered in 1927 numbered 71, while only 42 were recorded in 1926.

Only eight deaths occurred from Scarlet Fever in the course of the year. This is the lowest figure ever recorded for the City. The deaths in 1927 numbered 17, and 36 were reported in 1926.

There were 80 deaths ascribed to Whooping Cough, as compared with 43 in the previous year. The disease was present in the City during the greater part of the year, but no deaths occurred in the months of November and December.

The deaths from Diphtheria numbered 30—the lowest figure that has been recorded since 1912. In 1927 diphtheria caused 43 deaths, the same number being certified in 1926. The annual average for the five years preceding 1926 was 71.

The diseases classified in the Diarrhoeal group caused 44 deaths, as compared with 42 in the previous year.

The following statement shows the number of deaths from Epidemic Diseases during the last five years :—

	1924.	1925.	1926.	1927.	1928.
Enteric Fever	1	1	6	3	3
Measles	120	85	42	71	77
Scarlet Fever	68	62	36	17	8
Whooping Cough	85	188	17	43	80
Diphtheria	72	84	43	43	30
Diarrhoea and Enteritis	56	76	50	42	44
	—	—	—	—	—
	<u>402</u>	<u>496</u>	<u>194</u>	<u>219</u>	<u>242</u>

Further detailed information regarding the notification of the diseases in this group will be found under the heading "Infectious Diseases," on page 15.

Tuberculosis.—The total number of deaths from all forms of Tuberculous Disease was 448, the mortality being at the rate of 1·1 per 1,000 of the population.

The Respiratory form of the disease was certified as the cause of death in 345 instances, as compared with 381 in the previous year. The Non-Pulmonary forms of Tuberculosis accounted for 103 deaths, and of these, 44 were classified as Tuberculous Meningitis, and 26 as Tuberculosis of the Intestines or Peritoneum.

A detailed statement regarding the notifications and deaths from this disease will be found in the Report prepared by the Tuberculosis Officer, on page 23.

Influenza.—The City was free from any outbreak of Influenza during the year under review. Only in 9 instances was Influenza certified as the sole cause of death, while in another 55 it was given as a contributory cause.

Cancer.—During the year there were 687 deaths from all forms of malignant disease, and of these, 305 were males and 382 were females. The mortality among males was equal to a rate of 1·5, and among females 1·7 per 1,000 living. The rate for both sexes was 1·6 as compared with 1·7 in 1927.

It will be noted from the Table on page 14 that, while there were 29 fewer deaths in 1928 as compared with the previous year, there has been a steady increase in the mortality from Cancer over a long series of years. How far this increase is due to improved diagnosis and more careful certification it is difficult to determine. Statistics, however, point to a constant increase in the Cancer death-rate all over the country.

The following figures have been extracted from the Registrar-General's Report for 1927, and are interesting as showing the continuous rise in the Cancer death-rate as compared with the decline that has taken place in the mortality from Pulmonary Tuberculosis.

SCOTLAND—CANCER AND PULMONARY TUBERCULOSIS.

	DEATH-RATE PER 100,000 OF THE POPULATION.	
	Cancer.	Pulmonary Tuberculosis.
1861—1870	42	268
1871—1880	49	244
1881—1890	59	202
1891—1900	74	171
1901—1910	93	139
1911—1920	113	105
1921	122	81
1922	125	83
1923	130	82
1924	133	80
1925	136	76
1926	136	69
1927	141	71

In the accompanying Table the deaths from malignant disease are classified according to age and sex and the organ affected :—

CANCER DISTRIBUTION.

SITE.	SEX AND AGE-PERIODS.													TOTALS.							
	Under 15.		15-20.		20-25.		25-35.		35-45.		45-55.		55-60.		60-65.		65-75.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Brain		
Eye, Face, and Ear	1	1	4	...	1	...	2	2	11		
Tongue and Mouth	1	...	1	...	5	...	11	...	12	1	2	...	33		
Pharynx, Pharynx, and Neck	1	...	...	...	...	...	2	2	...	3	1	3	...	5	...	1	...	18		
Thorax and Lungs	1	...	1	...	...	...	3	...	4	3	3	2	2	1	4	1	...	...	25	
Breast	2	...	15	...	6	...	10	...	9	...	6	48		
Stomach and Esophagus	1	2	5	2	15	11	14	12	21	10	27	23	5	20	
Liver and Gall Bladder	3	...	5	4	2	2	2	4	5	15	4	9	55	
Testes and Rectum	1	...	...	...	...	...	1	3	2	3	9	7	9	4	9	13	26	21	11	23
Uterus	2	2	...	1	...	...	2	3	1	1	12	
Ovaries and Vagina	3	...	12	...	11	...	7	...	8	...	9	...	3	
Penis and Scrotum	1	...	2	...	3	...	1	...	5	...	2	...	2	16	
Abdomen and Pelvis	1	...	...	...	...	...	...	...	1	1	2	3	2	2	2	3	8	...	4	
Kidney	1	...	...	...	...	1	...	...	1	...	1	1	1	...	2	...	...	...	5	
Prostate	1	...	2	...	...	...	9	...	7	...	19	
Bladder	1	1	...	...	...	1	2	2	2	3	13	
Bones	1	2	...	...	...	...	...	...	...	1	1	1	...	2	2	...	1	10	
Glandless Glands	1	1	1	1	1	...	1	...	1	2	...	11	
Otherwise specified	1	1	1	1	...	2	2	3	...	2	13	
Totals		M.	2	...	2	3	...	11	...	44	...	46	...	56	...	104	...	37
		F.	...	2	...	2	9	...	28	...	62	...	43	...	57	...	101	...	78
															305 } 687						

The following Table shows the number of Cancer deaths occurring annually in Edinburgh since 1898 and the equivalent death-rate per 1,000 of the population.

YEAR.	MALE.	FEMALE.	TOTAL.	RATE PER 1000 LIVING.
1898	104	163	267	.8
1899	112	164	276	.9
1900	116	181	297	.9
1901	110	183	293	.9
1902	127	185	312	.9
1903	130	186	316	.9
1904	125	206	331	1.0
1905	124	220	344	1.0
1906	132	198	330	1.0
1907	120	224	344	1.0
1908	123	230	353	1.1
1909	130	243	373	1.1
1910	167	220	387	1.2
1911	154	251	405	1.2
1912	139	261	400	1.2
1913	146	255	401	1.2
1914	172	277	449	1.4
1915	187	248	435	1.3
1916	190	256	446	1.4
1917	162	257	419	1.3
1918	189	265	454	1.4
1919	158	274	432	1.3
1920	194	277	471	1.4
*1921	246	379	625	1.5
1922	273	384	657	1.5
1923	267	377	644	1.5
1924	290	393	683	1.6
1925	284	391	675	1.6
1926	276	377	653	1.5
1927	309	407	716	1.7
1928	305	382	687	1.6

* City Boundaries extended to include Leith and Suburban area.

Diseases of the Nervous System.—The deaths classified under this heading numbered 804—359 males and 445 females. Of the total deaths, 388 were attributed to Cerebral Hæmorrhage, 108 to Hemiplegia, 103 to Cerebral Embolism or Thrombosis, and 28 were certified as Apoplexy.

As regards the ages at death, 47 referred to children under the age of five years, 37 of these being infants under one year. Among the deaths of children 24 were classified as due to Convulsions, and 13 to Meningitis.

Diseases of the Circulatory System.—The deaths ascribed to the various diseases of the Circulatory System numbered 1,006, and of these 493 were males and 513 were females. Diseases of the Heart were responsible for 882 deaths, 275 of these were due to Valvular Disease, 61 to Angina Pectoris, 33 to Fatty Degeneration and 513 to other Heart conditions.

Diseases of the Blood Vessels accounted for the remaining 124 deaths, 70 being classified as due to Arterio-Sclerosis, and 28 to Aneurysm.

Diseases of the Respiratory System.—The deaths from diseases of the Respiratory System, other than those included in the Influenzal group, numbered 929. All forms of Pneumonia caused 521 deaths, and Bronchitis 322.

There were 192 deaths of children under the age of five years, no fewer than 118 being infants in their first year. Of these latter deaths, 88 were due to Pneumonia and 26 to Bronchitis.

Diseases of the Digestive System.—The various diseases associated with the Digestive Organs accounted for 255 deaths. This figure is exclusive of 44 deaths from Diarrhoea

and Enteritis, which have been allocated to the Epidemic Diseases group. Non-Malignant Diseases of the Liver caused 57 deaths, Ulceration of the Duodenum 29, Ulceration of the Stomach 28, and Appendicitis 27.

Deaths by Violence.—The deaths certified as due to violence numbered 285, and of these 186 were males and 99 were females.

INFECTIOUS DISEASES.

The various diseases falling to be dealt with under this heading are :—

- (1) Diseases which are notified in terms of Section 6 of the Infectious Disease (Notification) Act, 1889.
- (2) Diseases which have been added to the list by Orders made by the Scottish Board of Health under Section 78 of the Public Health (Scotland) Act, 1897.
- (3) Measles, Whooping Cough, and Chickenpox, which have been made temporarily notifiable by the Local Authority.

The following Table shows the number of notifications for each month of the year :—

Disease.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Smallpox . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Membranous Croup	55	48	50	40	43	35	53	34	40	84	62	85	629
Erysipelas	51	28	21	21	19	18	19	17	8	30	31	20	283
Scarlet Fever	124	91	101	76	66	57	80	65	78	123	79	106	1,046
Typhus . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhoid Fever	1	6	1	1	1	3	1	...	1	1	3	...	19
Relapsing Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	10	13	6	1	2	5	5	2	8	8	11	6	77
Cerebro-spinal Fever	1	2	5	5	1	5	1	...	1	3	...	1	25
Infective Jaundice . . . . .	...	...	...	...	1	...	...	...	...	...	...	...	1
Tuberculosis, Pulmonary	43	41	82	46	68	58	49	26	30	46	52	40	581
Tuberculosis, other forms	19	35	40	27	35	37	38	24	16	30	29	17	347
Ophthalmia Neonatorum	3	3	2	2	2	3	1	2	1	3	4	3	29
Malaria	1	1	1	2	...	1	1	...	1	1	2	1	12
Dysentery . . . . .	...	...	2	1	...	...	...	...	1	1	1	...	6
Trench Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia	74	39	51	41	49	40	38	25	28	36	42	60	523
Acute Influenzal Pneumonia	31	14	19	10	4	3	2	3	2	7	12	8	115
Measles	344	789	1237	1076	516	195	112	18	16	14	17	6	4,340
Whooping Cough	208	282	257	168	113	88	81	37	42	32	47	35	1,390
Poliomyelitis . . . . .	...	...	...	...	...	...	...	...	4	6	2	...	12
Polio-encephalitis . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	1	1	2	1	...	...	...	1	1	...	...	2	9
Chickenpox	74	65	67	69	57	88	103	49	23	107	189	216	1,107
Totals	1040	1458	1944	1587	977	636	584	303	301	532	583	606	10,551

Enteric Fever.—Only 19 cases of Enteric Fever were intimated during the year. In six instances the notifications referred to persons who had come to the City for treatment, the cause of whose illness was subsequently diagnosed to be Enteric Fever. In another three cases the disease had developed in citizens who had been in contact with the patients while under treatment in the medical institution from which they were removed to Colinton Mains Hospital.

The remaining cases were distributed throughout the City, and no common source of the infection could be traced.

Diphtheria.—The notifications of Diphtheria numbered 629, as compared with an annual average of 702 for the preceding five years. The type of Diphtheria present in the City was comparatively mild, and only 30 of the notified cases proved fatal. The case-mortality was equal to 4·8 per cent., and this is the lowest death-rate from Diphtheria since 1908, when 4·1 per cent. was recorded.

The disease was most prevalent in the last quarter of the year, when 211 cases were reported to the Department.

The cases were most numerous in St. Leonard's Ward (59), South Leith (45), Newington (42), and St. Bernard's (39). Only 5 cases were reported from Colinton Ward, and 8 occurred in Haymarket Ward.

The number of cases notified in each of the last eight years, together with the deaths and case-rates per cent. is given below :—

Year.	Notifications.	Deaths.	Rate per cent.
1921	991	75	7·5
1922	800	57	7·1
1923	770	69	8·9
1924	720	73	10·1
1925	870	82	9·4
1926	552	43	7·8
1927	599	44	7·3
1928	629	30	4·8

Scarlet Fever.—The number of cases of Scarlet Fever intimated during the year was 1,046. In no previous year since the extension of the City boundaries in 1920 has the disease been less prevalent than in 1928. The type of Scarlet Fever was extremely mild, and only 6 deaths occurred among the 1,046 cases notified.

The death-rate per cent. of the cases was equal to ·6, and this constitutes a record for the City.

The incidence of the disease was greatest in Gorgie Ward, 103 cases being reported in the course of the twelve months. It is satisfactory to note, however, that no deaths occurred among the cases notified from the Ward.

The following Table shows the number of cases notified in each of the last eight years with the deaths and death-rates per cent. of the cases :—

Year.	Notifications.	Deaths.	Rate per cent.
1921	2163	42	1·9
1922	1702	32	1·8
1923	1897	93	4·9
1924	1761	68	3·8
1925	2351	62	2·6
1926	1852	32	1·7
1927	1848	19	1·0
1928	1046	6	·6

Erysipelas.—During the year, 283 cases of Erysipelas were reported, as compared with 240 in 1927, and 241 in 1926. The deaths numbered 11, giving a death-rate of 3·8 per cent. of the cases notified.

Measles.—This disease became prevalent towards the end of 1927, and assumed epidemic proportions in the early months of the year. As only the first case in a household requires to be notified, it is difficult to compute the actual number of cases occurring in the City. There were, however, 4,340 cases reported to the Department in the course of the year, the corresponding figure for 1927 being 2,803.

The maximum monthly number of cases (1,237) was intimated in March, and from then onward the outbreak gradually subsided, the City being comparatively free from the disease during the last five months of the year.

The deaths certified as due to Measles numbered 77, and 57 of these were complicated with Pneumonia. In regard to the ages at death, 26 were infants under one, while 31 occurred between the age of one and two years.

The cases notified in each quarter of the year were as under :—

1st Quarter	2,370 cases.
2nd „ „ „ „	1,787 „
3rd „ „ „ „	146 „
4th „ „ „ „	37 „
Total . .	<u>4,340</u> „

Whooping Cough.—There were 1,390 first cases of Whooping Cough intimated during the year. The disease was most prevalent in the first quarter, 53 per cent. of the total notifications for the year being received in the course of the three months.

The deaths from Whooping Cough numbered 80, and 69 of these occurred in children under 3 years of age—33 being infants under one year. In 50 instances the deaths were complicated with Pneumonia, and another 6 certificates gave Bronchitis as a contributory cause.

Cerebro-Spinal Meningitis.—Twenty-five cases of Cerebro-Spinal Meningitis were notified during the year, and 21 deaths were recorded. The mortality-rate was equivalent to 84 per cent. of the cases reported.

The age distribution of the cases was as under :—

Under 1 year	8 cases.
1-5 years	8 „
5-15 „ „ „ „	5 „
15-25 „ „ „ „	1 „
25-45 „ „ „ „	2 „
45-65 „ „ „ „	1 „
Total	<u>25</u> „

Tuberculosis.—The notifications of Tuberculosis in 1928 numbered 928, being 581 Pulmonary, and 347 other forms of the disease. The notifications are dealt with in detail by the Tuberculosis Officer in his report on page 23.

Puerperal Fever.—During the year 77 cases of Puerperal Fever were reported as compared with 63 in 1927. Particulars regarding the cases will be found in the Maternity and Child Welfare Section of this Report on page 55.

Ophthalmia Neonatorum.—Twenty-nine cases of Ophthalmia were notified in 1928. The corresponding figure for the previous year was 26. The methods adopted for the supervision and treatment of the cases are fully explained in the Maternity and Child Welfare Report on page 55, and in the Report on Venereal Diseases on page 74.

Admissions to Hospitals.—The following Table shows the number of patients admitted to the various Corporation Hospitals during the year. The figures include patients sent in by arrangement with other Local Authorities, and also a number of patients who had come to the City for treatment in General Hospitals, and who were subsequently found to be suffering from an infectious disease :—

		Pulmonary Tuberculosis.	Other Tuberculosis.	Other Diseases.	Total.
Colinton Mains Hospital	59	40	2,984	3,083	
East Pilton Hospital	349	....	121	470
Royal Victoria Hospital	211	....	....	211
Portobello Hospital . . . .	....	....	27	27
Polton Farm Colony	16	....	....	16
Totals	<u>635</u>	<u>40</u>	<u>3,132</u>	<u>3,807</u>	

In the Table on page 19 the notifications of certain specified diseases are tabulated according to Wards.

On page 20 the number of cases of Infectious Diseases notified annually since 1885 are detailed, while on page 21, a Table will be found showing the admissions to Hospital since 1890.

In the Table on page 22 the notifications of the principal diseases are classified according to the size of the house occupied by the infected persons.

The deaths in this Table represent those actually occurring among the cases notified although taking place after 31st December.

Table showing the number of Notifications and Deaths, together with Death-rate per cent. of Cases of each Disease, during forty-four years, 1885-1928.

Year.	Smallpox.			Typhus Fever.			Enteric Fever.			Puerperal Fever.			Diphtheria, McMurtry's Branious Group.			Scarlet Fever.			Erysipelas.			Cerebro-Spinal Fever.				
	Cases.	Deaths.	Percentage of Deaths to Cases.	Cases.	Deaths.	Percentage of Deaths to Cases.	Cases.	Deaths.	Percentage of Deaths to Cases.	Cases.	Deaths.	Percentage of Deaths to Cases.	Cases.	Deaths.	Percentage of Deaths to Cases.	Cases.	Deaths.	Percentage of Deaths to Cases.	Cases.	Deaths.	Percentage of Deaths to Cases.	Cases.	Deaths.	Percentage of Deaths to Cases.		
1885	12	3	11.5	58	10	17.2	589	62	10.5	...	...	...	149	43	28.8	1,087	28	2.5	...	...	...	...	...	...
1886	26	3	11.5	12	4	33.3	224	31	13.8	...	...	...	212	51	24.0	1,306	42	3.2	...	...	...	...	...	...
1887	...	...	...	38	11	28.9	332	38	11.4	...	...	...	256	57	22.2	2,587	145	5.5	...	...	...	...	...	...
1888	...	...	...	23	5	21.7	245	27	11.0	...	...	...	245	65	26.5	618	20	3.2	...	...	...	...	...	...
1889	...	...	...	46	9	19.5	320	32	10.0	...	...	...	354	98	27.1	1,255	29	2.3	...	...	...	...	...	...
1890	...	...	...	7	1	14.3	500	44	8.8	...	...	...	361	85	23.5	1,197	46	4.0	...	...	...	...	...	...
1891	...	...	...	1	...	...	445	42	9.4	...	...	...	207	48	23.1	979	49	5.0	...	...	...	...	...	...
1892	8	...	...	18	3	16.6	238	28	11.7	...	...	...	203	42	20.6	1,856	69	3.7	...	...	...	...	...	...
1893	51	1	1.9	6	1	16.6	274	36	13.1	...	...	...	251	62	24.7	1,629	49	3.0	...	...	...	...	...	...
1894	537	56	10.4	3	1	33.3	310	38	12.2	...	...	...	362	86	23.7	1,821	65	3.5	...	...	...	...	...	...
1895	109	16	14.6	...	...	...	417	54	12.9	...	...	...	314	65	20.7	2,832	65	2.2	...	...	...	...	...	...
1896	...	...	...	10	3	30.0	328	36	10.9	...	...	...	251	52	20.7	2,185	48	2.1	...	...	...	...	...	...
1897	...	...	...	3	1	33.3	254	24	9.4	...	...	...	214	44	20.5	2,597	93	3.5	...	...	...	...	...	...
1898	7	...	...	79	9	11.4	241	27	11.2	...	...	...	269	38	14.1	2,387	72	3.0	...	...	...	...	...	...
1899	...	...	...	12	3	25.0	289	39	13.4	...	...	...	279	28	10.0	1,185	50	4.2	...	...	...	...	...	...
1900	5	...	...	35	3	8.5	249	25	10.6	...	...	...	483	52	10.0	991	27	2.7	...	...	...	...	...	...
1901	6	1	16.6	14	2	14.3	215	20	9.5	11	9	81.8	674	61	9.0	832	15	1.8	291	25	8.6	...	...	...
1902	7	...	...	10	1	10.0	192	27	14.0	26	18	69.2	408	32	7.8	812	30	3.6	513	25	4.8	...	...	...
1903	5	1	20.0	...	...	...	237	22	9.2	7	3	42.8	575	59	10.2	1,415	53	3.7	434	15	3.4	...	...	...
1904	168	15	8.9	6	...	...	196	22	11.2	14	11	78.5	752	63	8.3	1,070	31	2.8	353	15	4.2	...	...	...
1905	2	...	...	16.6	1	16.6	20	20	9.5	11	9	81.8	674	61	9.0	832	15	1.8	291	25	8.6	...	...	...
1906	...	...	...	11	...	...	144	11	7.6	11	9	81.8	667	48	7.1	987	34	3.4	337	25	7.4	...	...	...
1907	...	...	...	103	11	10.6	19	10	52.6	635	32	5.0	1,110	24	2.1	300	10	3.3	206	10	3.3	135	65.5	...
1908	20	...	...	68	6	8.8	13	3	23.0	389	16	4.1	1,993	32	1.6	260	11	4.2	53	11	4.2	...	43.4	...
*1909	2	5	39	5	12.8	23	12	52.1	423	38	8.9	1,522	50	3.2	207	10	4.8	28	16	57.1	...	
1910	43	6	13.9	19	19	7.6	11	9	81.8	511	60	11.7	1,512	42	2.7	209	13	6.2	7	4	57.0	...	
1911	31	3	9.7	15	7	46.6	605	49	8.0	1,075	24	2.2	241	12	4.9	3	3	3	3	100.0	65.5	...	
1912	29	4	13.7	8	5	62.5	426	29	6.8	893	10	1.1	239	10	4.1	4	4	4	4	100.0	43.4	...	
1913	45	10	22.2	18	11	61.1	448	35	7.8	1,675	43	2.5	223	6	2.6	3	2	2	2	66.6	57.1	...	
1914	63	12	19.0	17	10	58.8	902	96	10.6	2,270	36	1.5	278	11	3.9	6	2	2	2	33.3	43.4	...	
1915	21	3	14.3	16	8	50.0	907	107	11.8	1,748	58	3.3	280	10	3.5	72	44	61.1	44.4	...	66.6	...	
1916	30	2	6.6	19	4	21.0	823	82	9.9	1,411	31	2.1	171	4	2.3	42	23	54.7	54.7	...	73.3	...	
1917	6	2	33.3	22	12	54.5	584	65	11.1	748	16	2.1	160	12	7.5	45	18	40.0	40.0	...	75.0	...	
1918	14	1	7.1	10	5	50.0	627	60	9.5	852	26	3.0	126	5	3.9	30	11	36.6	36.6	...	83.3	...	
1919	6	19	9	47.3	734	79	10.7	1,459	39	2.6	177	10	5.6	15	7	46.6	46.6	...	91.1	...	
1920	9	...	...	15	...	...	41.7	991	75	7.5	1,420	14	0.9	275	20	7.2	14	10	71.4	71.4	...	75.0	...	
+1921	...	...	...	36	15	41.7	800	57	7.1	1,702	32	1.8	363	22	6.0	7	4	57.1	57.1	...	65.5	...		
1922	...	...	...	12	2	25.0	17	7	41.1	54.5	770	69	8.9	1,897	93	4.9	257	17	6.6	12	8	66.6	66.6	...
1923	27	1	3.7	40	17	42.5	720	73	10.1	1,761	68	3.8	201	9	4.4	15	11	73.3	73.3	...	83.3	...	
1924	30	1	3.3	27	11	40.7	870	82	9.4	2,351	62	2.6	270	14	5.2	10	10	12	12	10	5.2	...	
1925	40	17	42.5	45.2	43	5.52	5.52	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1

Became noticeable in 1902.

and the percentage of admissions to total notifications in each year.

Year.	Smallpox.		Typhus Fever.		Enteric Fever.		Puerperal Fever.		Diphtheria, Mcm-branous Group.		Scarlet Fever.		Erysipelas.	
	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.
1890	...	...	7	100·00	241	48·02	122	29·59	480	40·10	...	...	...	...
1891	...	...	1	100·00	227	51·01	82	39·61	433	44·12	...	...	...	...
1892	8	100·00	16	88·88	115	48·31	66	32·51	862	46·44	...	...	...	...
1893	51	100·00	5	83·33	144	52·55	85	33·86	780	47·88	...	...	...	...
1894	533	99·25	3	100·00	176	56·77	122	33·70	958	52·60	...	...	...	...
1895	109	100·00	...	...	288	69·06	146	46·49	1519	53·63	...	...	...	...
1896	...	...	10	100·00	233	71·03	108	43·02	1381	63·20	...	...	...	...
1897	...	...	3	100·00	175	68·89	109	50·93	1658	63·84	...	...	...	...
1898	7	100·00	78	98·73	143	51·03	111	41·26	1350	56·55	...	...	...	...
1899	...	...	11	91·66	207	71·62	136	48·74	816	68·86	...	...	...	...
1900	5	100·00	35	100·00	181	72·69	309	63·97	676	68·21	...	...	...	...
1901	6	100·00	14	100·00	166	76·85	364	67·15	601	67·37	...	...	...	...
1902	7	100·00	10	100·00	153	79·68	5	19·23	297	72·79	605	74·50	207	40·35
1903	5	100·00	...	214	90·29	...	429	74·60	1187	83·88	154	35·48	...	...
1904	168	100·00	6	100·00	174	88·77	1	7·14	579	76·99	942	88·03	136	38·52
1905	2	100·00	1	100·00	179	85·23	4	36·36	581	86·20	740	88·82	126	43·29
1906	...	...	...	...	132	91·66	7	63·63	589	88·30	880	89·15	146	43·32
1907	...	...	1	100·00	91	88·34	12	63·15	546	85·98	1026	92·43	152	50·66
1908	17	85·00	...	...	61	89·70	9	69·23	338	86·88	1882	94·43	133	51·15
1909	2	100·00	...	...	35	90·00	14	60·86	371	87·70	1442	94·74	108	52·17
1910	...	...	1	100·00	132	90·69	11	57·89	476	93·15	1423	94·11	91	43·54
1911	...	...	...	...	91	93·55	8	53·33	556	91·90	1007	93·67	131	54·35
1912	...	...	...	...	61	90·00	14	50·00	396	92·95	848	94·96	132	55·23
1913	...	...	...	...	35	90·00	14	60·86	371	87·70	1442	94·74	108	48·43
1914	...	...	...	...	39	90·69	11	57·89	476	93·15	1423	94·11	91	43·54
1915	...	...	...	...	29	93·55	8	53·33	556	91·90	1007	93·67	131	54·35
1916	...	...	...	...	27	93·10	4	50·00	396	92·95	848	94·96	132	55·23
1917	...	...	5	91·11	8	44·44	416	92·85	1612	96·23	108	52·17	...	...
1918	...	...	56	88·88	12	70·59	856	94·90	2206	97·18	146	52·50	...	...
1919	...	...	...	...	19	90·47	8	50·00	883	98·11	1659	94·90	144	51·42
1920	9	100·00	...	...	28	93·33	10	52·63	797	96·84	1383	98·01	57	33·33
†1921	...	...	6	66·66	5	47·22	567	97·08	727	97·19	74	46·25	...	...
1922	...	...	15	93·75	9	52·94	767	95·87	1611	94·65	117	44·48	...	...
1923	...	...	11	78·57	6	60·00	606	96·65	841	98·70	69	54·76	...	...
1924	...	...	6	100·00	7	36·84	716	97·54	1435	98·35	75	42·37	...	...
1925	...	...	10	83·33	13	50·00	981	96·74	1382	97·32	152	55·27	...	...
1926	...	...	6	66·66	17	47·22	567	96·16	2103	97·22	163	44·90	...	...
1927	...	...	15	93·75	9	52·94	767	95·87	1611	94·65	117	44·48	...	...
1928	...	...	16	84·21	6	36·84	716	97·54	1435	98·35	75	42·37	...	...
		...	...	...	10	83·33	13	50·00	981	96·74	1382	97·32	152	55·27
		...	...	...	6	66·66	17	47·22	567	96·16	2103	97·22	163	44·90
		...	...	...	15	93·75	9	52·94	767	95·87	1611	94·65	117	44·48
		...	...	...	11	78·57	6	60·00	606	96·65	1786	94·15	138	53·69
		...	...	...	19	57·57	741	96·23	1786	94·15	138	41·79	84	41·79
		...	...	...	22	81·48	25	62·50	699	97·08	1644	82·68	87	32·22
		...	...	...	27	90·00	16	59·26	845	97·12	1944	82·83	77	31·95
		...	...	...	26	78·88	27	67·50	524	94·92	1534	86·20	114	47·50
		...	...	...	62	79·48	45	71·42	578	96·49	1593	86·20	114	47·50
		...	...	...	52	84·21	52	67·53	602	95·70	849	81·16	111	39·22

† City Boundaries extended to include Leith and Suburban area.

Table showing the Notifications of Infectious Diseases, classified according to size of house in which the infected persons resided.

DISEASE.	1 Apartment.		2 Apartments.		3 Apartments.		4 Apartments.		5 Apartments.		Over 5 Apartments.		Institutions and Military Quarters.						
	Total Cases.	Number of Cases.	Total Cases.	Number of Cases.	Total Cases.	Number of Cases.	Total Cases.	Number of Cases.	Total Cases.	Number of Cases.	Total Cases.	Number of Cases.	Total Cases.	Number of Cases.	Total Cases.				
Diphtheria	53	8.4	239	38.0	125	19.9	66	10.5	20	3.1	86	13.7	40	6.2	629
Erysipelas	13	4.6	94	33.2	57	20.2	30	10.6	13	4.6	30	10.6	46	16.2	283
Scarlet Fever	32	3.0	373	35.6	282	27.0	152	14.5	51	4.9	113	10.8	43	4.1	1,046
Typhoid Fever	1	5.2	2	10.5	3	15.8	3	15.8	...	...	3	15.8	7	36.8	19
Puerperal Fever	2	2.6	29	37.6	12	15.6	6	7.8	2	2.6	2	2.6	24	31.1	77
Cerebro-spinal Meningitis	2	8.0	11	44.0	7	28.0	3	12.0	...	...	...	...	2	8.0	25
Totals . .	103	5.0	748	36.0	486	23.3	260	12.5	86	4.1	234	11.2	162	7.8	2,079				

TUBERCULOSIS.

The following Report has been prepared by Dr. John Guy, Tuberculosis Officer :—

I have the honour to present the Report of the Tuberculosis Department for the year 1928.

It is always with a considerable degree of interest that the figures for the Department at the end of the year are examined, as one naturally expects from them some indication that Tuberculosis is becoming less prevalent. It is a well-known fact that, since 1870, Tuberculosis has been gradually disappearing from Scotland, and some disappointment is felt if at the end of the year another instalment of progress is not recorded.

The death-rate from Tuberculosis is not merely an index with regard to the disease itself, but can be taken as reflecting, to some extent, the health of the community generally, as well as the housing conditions of the people. If an area of property is under consideration for condemnation, one of the first pointers in that direction is the Tuberculosis death-rate.

In forming a judgment as to the diminution of the disease, there are two points that may be taken into consideration. One is the number of notifications of the disease during the year, and the other is the number of deaths.

To judge only from the notification stand-point is not to my mind a sound procedure, as so many factors have to be considered which may introduce error. It seems to me that the death-rate is a better guide to the progress that is being made. Yet it is noteworthy that if judged from either of these stand-points, the disease is disappearing. We have fewer notifications and fewer deaths this year than ever. The notifications amount to 581, the smallest number on record since the notification of Pulmonary Tuberculosis was introduced. It may also be pointed out that the number of notifications received during the year for the extended City is less than it was for Edinburgh previous to amalgamation with Leith and the Suburban Area.

When we come to consider the progress from the point of view of the number of deaths, it is quite obvious that we are gaining ground. The actual number of deaths was 345, the lowest that has been recorded for the enlarged City.

In the Table on page 31 there is a very instructive column showing the number of deaths from Pulmonary Tuberculosis taking place annually since 1900. In that year 548 deaths occurred in the City. In 1928, taking the City as it was previous to extension, the actual number was 240. This represents a reduction of 308—equal to 56 per cent. as compared with twenty-eight years ago.

Another way of illustrating the progress that has been made is to take the Pulmonary Tuberculosis death-rate per 10,000 living. Thus in 1900, out of every 10,000 of the population, 18 persons died of consumption, whereas last year only 8 died. This is extremely encouraging.

The same truth holds good regarding the Non-Pulmonary forms of the disease. In 1900 there were 270 deaths from all the Non-Pulmonary forms of Tuberculosis, while last year only 103 deaths were recorded for the whole of the extended City.

I do not think that anyone with these figures in front of him can be blamed for taking an optimistic view regarding the future of Tuberculosis, and while a good deal still remains to be done, I am of opinion that Tuberclle as a cause of death and as a cause

of expense to the community will shortly be of very much less importance than it is at present.

The work of the Department during the year has been carried out very harmoniously, and I think, efficiently.

I have to thank the various members of the Staff—Doctors, Matrons, and Nurses—for their hearty co-operation.

I append under appropriate headings the statistics relative to the notifications and deaths, and also particulars regarding the institutions under the control of the Department.

I remain,

Yours faithfully,

JOHN GUY,
M.D., D.P.H. (Camb.), F.R.F.P. & S. (Glas.),
F.R.C.P. (Edin.).
Tuberculosis Officer.

PULMONARY TUBERCULOSIS.

Notifications.—During the year 623 cases of Pulmonary Tuberculosis were reported to the Department. In tabulating the notifications duplicate intimations are excluded. Notifications referring to persons resident in other parts of the country are transmitted to the district of permanent domicile, while Edinburgh citizens who may be certified during temporary absence from their homes are included in the City records.

After making these corrections, it was found that the number of new cases to be allocated to the City for the year was 581—311 males and 270 females.

This number is only slightly less than that reported in 1927. It is, however, gratifying to be able to state that the decline noticed in 1925 has been continued. If a comparison be made with the year 1921, the first complete year after the extension of the City boundaries, it will be seen that there has been a reduction of fully 28 per cent. in the number of cases reported for the year under review.

The following Table shows the number of cases intimated annually since 1907, when the disease became notifiable in the City :—

1907 . . .	651 or 2·0 per 1000.	1918 . . .	643 „ 2·0 per 1000.
1908 . . .	713 „ 2·2 „	1919 . . .	602 „ 1·9 „
1909 . . .	744 „ 2·3 „	1920 . . .	616 „ 1·9 „
1910 . . .	763 „ 2·3 „	*1921 . . .	817 „ 1·9 „
1911 . . .	1052 „ 3·3 „	1922 . . .	762 „ 1·8 „
1912 . . .	1255 „ 3·9 „	1923 . . .	692 „ 1·6 „
1913 . . .	1010 „ 3·1 „	1924 . . .	799 „ 1·9 „
1914 . . .	808 „ 2·4 „	1925 . . .	670 „ 1·6 „
1915 . . .	690 „ 2·1 „	1926 . . .	656 „ 1·5 „
1916 . . .	628 „ 1·9 „	1927 . . .	593 „ 1·4 „
1917 . . .	655 „ 2·0 „	1928 . . .	581 „ 1·4 „

* City Boundaries extended to include Leith and Suburban Area.

The age and sex distribution of the cases notified during 1928 is shown in the following Table. As regards the age incidence, 23·4 per cent. of the notifications were in respect of persons under the age of twenty years, while the percentage for all the age periods above twenty years was 76·6. In 1921 the percentage in the early age groups was 20·1. From this it might be inferred that Pulmonary Tuberculosis was becoming more prevalent in the younger age periods. It has, however, to be pointed out that

Table showing age and sex of Enteric Fever patients :—

Age-period in years . . .	0-5 yrs.	5-10 yrs.	10-15 yrs.	15-20 yrs.	20-30 yrs.	30-40 yrs.	40-50 yrs.	50-60 yrs.	60+ yrs.	Totals.
Recovered { Males . . .	2	1	...	...	2	1	...	...	...	6
	... .	3	...	1	3	1	...	...	...	8
Died { Males . . .	1	...	...	...	...	...	...	...	...	1
	... .	...	...	...	1	...	...	...	...	1
Totals . . .	3	4	...	1	6	2	...	...	...	16

Hospital death-rate, 12.5 per cent.

ERYSIPELAS.

Of 143 cases admitted to the wards notified as Erysipelas, 111 were actually suffering from the disease. Of the remaining 32 patients, Cellulitis was present in 13, and various forms of Dermatitis in the rest.

The case mortality rate was 8.1 per cent.

In 93 out of the 111 cases the inflammation primarily affected the face.

Eleven patients, or 9.9 per cent. of the total admissions had suffered from previous attacks. In 5 cases one or more relapses occurred whilst the patient was under treatment in hospital.

Table showing age and sex of Erysipelas patients :—

Age-period in years . . .	0-5 yrs.	5-10 yrs.	10-20 yrs.	20-30 yrs.	30-40 yrs.	40-50 yrs.	50-60 yrs.	60-70 yrs.	70+ yrs.	Totals.
Recovered { Males . . .	3	1	2	11	12	8	8	1	2	48
	7	1	6	5	9	13	8	4	1	54
Died { Males . . .	4	...	...	...	...	...	...	...	2	6
	...	...	...	...	1	...	1	1	...	3
Totals . . .	14	2	8	16	22	21	17	6	5	111

Hospital death-rate, 8.1 per cent.

MEASLES.

Of 541 cases alleged to be suffering from Measles the diagnosis was confirmed in 429. No fewer than 84 cases notified as Measles were suffering from Rubella. The remaining 28 cases were found to be suffering from one or other of the following diseases :—Erythema, Scarlet Fever, Diphtheria, Pneumonia, Cerebro-Spinal Meningitis, or Tubercular Meningitis.

The deaths attributed to Measles numbered 38. In 32 cases the fatal termination was due to a complicating Broncho-Pneumonia.

The fatality rate, 9.1 per cent., was not unsatisfactory when we consider the type of case selected for hospital treatment.

The more important complications which were noted are as under :—

Broncho-Pneumonia . . .	74 cases, or 17.2 per cent.
Otorrhoea . . .	48 ,,, 11.2 ,,,
Enteritis . . .	34 ,,, 7.9 ,,,
Laryngitis . . .	18 ,,, 4.2 ,,,
Lobar Pneumonia . . .	5 ,,, 1.1 ,,,
Adenitis . . .	4 ,,, 0.9 ,,,

Table showing age and sex of Measles patients :—

Age-period in years . .	0-1 yr.	1-2 yrs.	2-3 yrs.	3-4 yrs.	4-5 yrs.	5-10 yrs.	10-15 yrs.	15-20 yrs.	20-30 yrs.	30-40 yrs.	40+ yrs.	Totals.
Recovered { Males . .	14	33	34	24	16	34	15	4	5	...	...	179
Females . .	19	28	25	31	7	43	7	13	31	6	2	212
Died { Males . .	9	10	4	...	1	1	...	...	...	...	...	25
Females . .	4	5	2	2	...	...	...	...	...	...	...	13
Totals . .	46	76	65	57	24	78	22	17	36	6	2	429

Hospital death-rate, 9·1 per cent.

R U B E L L A.

Eighty-four cases of Rubella were treated during the year. In every patient the disease had been erroneously diagnosed as Measles. One child died from Rheumatic Endocarditis of several years' duration.

Table showing age and sex of Rubella patients :—

Age-period in years . . .	0-5 years.	5-10 years.	10-15 years.	15-20 years.	20-30 years.	30-40 years.	40 + years.	Totals.
Recovered { Males . . .	3	6	2	1	4	...	...	16
Females . . .	1	13	2	15	33	...	3	67
Died { Males . . .	...	1	...	...	...	...	...	1
Females . . .	...	...	...	...	...	...	...	...
Totals . . .	4	20	4	16	37	...	3	84

W H O O P I N G C O U G H .

The number of patients admitted to the wards notified as Whooping Cough was 243. The diagnosis was confirmed in 215 cases, whilst Bronchitis, Broncho-Pneumonia, and Miliary Tuberculosis accounted for 24 of the misdiagnosed cases.

The fatality rate, 12·1 per cent., compares very favourably with that of the preceding seven years. Broncho-Pneumonia was present in 49 cases on admission ; 22·7 per cent. of the total.

Table showing age and sex of Whooping Cough patients :—

Age-period in years . . .	0-1 year.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	5-10 years.	10-15 years.	15+ years.	Totals.
Recovered { Males . . .	13	26	18	13	7	18	...	...	95
Females . . .	11	18	25	18	7	14	1	...	94
Died { Males . . .	2	7	...	...	1	...	...	...	10
Females . . .	6	3	3	3	...	1	...	...	16
Totals . . .	32	54	46	34	15	33	1	...	215

Hospital death-rate, 12·1 per cent.

C E R E B R O - S P I N A L M E N I N G I T I S .

Twenty-two suspected cases were admitted to hospital, and of these, 11 proved to be Meningococcal. Four patients were suffering from Meningism ; 2 from Pneumococcal Meningitis ; 2 from Tubercular Meningitis ; 2 from Paratyphoid B. infection ; and 1 from Influenza.

Seven of the 11 Meningococcal cases died. Three deaths occurred in patients admitted on the eighth, eleventh, and seventeenth day of disease respectively. Whilst some cases respond to serum treatment admirably, others remain unaffected.

Table showing age and sex of patients suffering from Cerebro-Spinal Meningitis :—

Age-period in years . . .	0-1 year.	1-5 years.	5-10 years.	10-15 years.	15-20 years.	20-30 years.	30+ years.	Totals.
Recovered { Males . . .	...	...	1	...	...	...	...	1
Females . . .	...	1	1	...	1	...	...	3
Died { Males . . .	2	1	...	1	...	...	...	4
Females . . .	2	...	...	...	...	...	1	3
Totals . . .	4	2	2	1	1	...	1	11

Hospital death-rate, 63·6 per cent.

C H I C K E N P O X.

Sixty-six out of 67 cases admitted to hospital notified as Chickenpox were actually suffering from the disease.

One patient died from Broncho-Pneumonia, which was present previous to the Chickenpox infection.

Table showing age and sex of Chickenpox patients :—

Age-period in years . . .	0-1 year.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	5-10 years.	10-15 years.	15-20 years.	20-30 years.	30-40 years.	40-50 years.	Totals.
Recovered { Males . . .	1	2	4	4	6	15	2	2	4	1	1	42
Females . . .	...	1	...	1	3	14	3	...	1	1	...	24
Died { Males . . .	...	...	...	...	...	...	...	...	...	...	...	...
Females . . .	...	...	...	...	...	...	...	...	...	...	...	...
Totals . . .	1	3	4	5	9	29	5	2	5	2	1	66

OTHER DISEASES.

ANTHRAX.—Two cases were admitted to hospital notified as Anthrax. In one case, which recovered, the diagnosis of Cutaneous Anthrax was confirmed. The other patient was suffering from Accidental Vaccinia.

DYSENTERY.—Of 5 cases notified as Dysentery, two were found to be suffering from Bacillary infection, Shiga, and Flexner respectively. There was no evidence of Dysentery in the other three cases. Both Dysentery cases recovered.

EPIDEMIC ENCEPHALITIS.—Of 7 cases notified as Encephalitis Lethargica the diagnosis was confirmed in only 1 individual. This patient died. Two patients were suffering from Tubercular Meningitis.

NFLUENZA.—There were 36 patients admitted to the wards alleged to be suffering from Influenza complicated by pneumonia. Evidence of Influenza, with or without pneumonia as a complication, could be found in only 8 of the 36 cases. Primary Pneumonia was present in 14 patients. One of the 8 cases regarded as Influenza died. Two deaths occurred from Primary Pneumonia.

UMPS.—This disease accounted for 58 admissions to hospital. The diagnosis was confirmed in 55 cases. There were no deaths.

PUERPERAL INFECTION.—Of 72 cases notified as Puerperal Fever the diagnosis was confirmed in 68. Seventeen of the 68 patients died; a mortality rate of 25 per cent., which compares favourably with the rate of 27 to 33 per cent. of previous years.

Again I have to emphasize the value of early notification. Many patients were admitted to hospital in a moribund condition, having been ill at home for one or more weeks.

TYPHUS FEVER.—One patient alleged to be suffering from Typhus Fever was ultimately diagnosed as Influenza.

LABORATORY.

The following Table contains a summary of the Laboratory Examinations at the City Hospital by the Medical Staff during the year 1928 :--

JANUARY 1st TO DECEMBER 31st, 1928.

SPECIMENS OF.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Throat Swabs . . .	394	386	323	335	327	342	332	333	253	291	395	345	4056
Sputum . . .	40	32	37	44	52	31	34	34	50	40	38	36	468
Blood Cultures . . .	13	15	8	8	4	10	11	8	10	10	17	9	123
C.S. Fluid . . .	10	7	39	90	8	25	14	7	4	20	2	5	231
Uries . . .	29	39	26	13	9	11	14	14	18	22	27	44	266
Stools . . .	28	31	34	5	6	18	4	9	10	3	6	8	162
Widal . . .	3	3	7	6	2	3	2	3	2	4	7	2	44
General . . .	9	6	1	9	6	6	4	2	3	5	3	4	58
Monthly Total . .	526	519	475	510	414	446	415	410	350	395	495	453	5408

BACTERIOLOGICAL EXAMINATIONS.

Examinations carried out by the Bacteriology Department of the University, from January to December 1928:—

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Year.
throat and nasal swabs for <i>Bacillus diphtheriae</i> :—													
Total . . .	376	465	392	313	405	267	323	264	280	584	459	465	4593
Positive . . .	37	40	42	41	54	21	40	25	34	70	55	70	529
Negative . . .	339	425	350	272	351	246	283	239	246	514	404	395	4064
<i>Bacillus diphtheriae</i> Virulence Tests:—													
Total . . .	...	3	5	2	1	3	5	...	2	4	8	5	38
Positive . . .	...	0	3	2	0	2	1	...	1	3	1	3	16
Negative . . .	...	3	2	0	1	1	4	...	1	1	7	2	22
throat swabs for organisms of Vincent's Angina:—													
Total . . .	2	1	4	1	1	3	2	2	...	2	3	1	22
Positive . . .	0	0	0	0	0	0	0	0	...	1	0	0	1
Negative . . .	2	1	4	1	1	3	2	2	...	1	3	1	21
putum for <i>Bacillus tuberculosis</i> :—													
Total . . .	83	65	89	59	86	58	51	51	73	89	77	67	848
Positive . . .	6	8	11	6	11	15	9	7	12	11	14	9	119
Negative . . .	77	57	78	53	75	43	42	44	61	78	63	58	729
urine for <i>Bacillus tuberculosis</i> :—													
Total . . .	...	1	2	...	...	...	...	2	3	...	1	1	10
Positive . . .	...	0	0	...	...	...	...	0	0	...	0	0	0
Negative . . .	...	1	2	...	...	...	...	2	3	...	1	1	10
lood for Agglutination Tests (Enteric Fever):—													
Total . . .	2	5	1	2	3	...	3	1	3	2	2	...	24
Positive . . .	0	0	0	0	0	...	0	0	0	1	0	...	1
Negative . . .	2	5	1	2	3	...	3	1	3	1	2	...	23
carcases and urine examined for Bacteria of Enteric Group:—													
Total . . .	3	1	1	...	...	...	1	...	4	3	2	...	15
Positive . . .	0	0	0	...	...	...	0	...	0	0	0	...	0
Negative . . .	3	1	1	...	...	...	1	...	4	3	2	...	15
carcases examined for Bacteria of Dysentery Group:—													
Total . . .	4	2	1	...	...	...	1	...	...	...	...	1	9
Positive . . .	1	0	0	...	...	...	0	...	...	...	...	1	2
Negative . . .	3	2	1	...	...	...	1	...	...	...	...	0	7
lood cultures for General Bacteriological Examination (including Diagnosis of Enteric Fever):—													
Total . . .	...	...	2	1	1	...	...	...	...	...	...	...	4

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Year.
ts examined for Plague infection*:													
Total . . .	6	2	...	4	12	7	7	2	8	5	3	8	64
Positive . . .	0	0	...	0	0	0	0	0	0	0	0	0	0
Negative . . .	6	2	...	4	12	7	7	2	8	5	3	8	64
These were carcasses of rats caught in docks or on board ships arriving from foreign ports and were examined as a precautionary measure.													

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Year.
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Other Examinations

Classified as follows—

NATURE OF SPECIMEN.	EXAMINATION REQUESTED.	4	6	4	13	17	11	16	6	14	8	16	3	118
Cultures	For <i>Bacillus diphtheriae</i>	2
Swabs from Ear	For <i>Bacillus diphtheriae</i> ... ...	...	...	...	...	...	...	...	...	...	...	(6 positive)	9
Swab from Vulva	For <i>Bacillus diphtheriae</i> ... ...	...	...	...	...	...	...	...	...	...	...	...	1
Swab from Balanitis	For <i>Bacillus diphtheriae</i> ... ...	...	...	...	...	...	...	...	...	...	...	...	1
Urine	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	14
Urine	Examination for <i>Leptospira</i> (Organism of Infectious Jaundice): Microscopic and Animal Inoculation tests ...	...	...	...	...	...	...	...	...	...	...	...	1
Pus	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	3
Pus	For <i>Bacillus tuberculosis</i> ...	...	...	...	...	...	...	...	...	...	...	...	3
Pus	For Serological "typing" of <i>Pneumococcus</i> ...	...	...	...	...	...	...	...	...	...	...	...	1
Swabs from Urethra ...	For <i>Gonococcus</i> and other Bacteria ...	...	...	...	...	...	...	...	...	...	...	...	10
Swabs from Cervix Uteri ...	For <i>Gonococcus</i> and other Bacteria ...	...	...	...	...	...	...	...	...	...	...	...	4
Swabs from Eye ...	For <i>Gonococcus</i> and other Bacteria ...	...	...	...	...	...	...	...	...	...	...	...	22
Cerebro-spinal Fluid ...	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	2
Cerebro-spinal Fluid ...	For <i>Syphilis</i> Flocculation Test ...	...	...	...	...	...	...	...	...	...	...	...	1
Swab from Umbilicus ...	For <i>Tetanus bacillus</i> ...	...	...	...	...	...	...	...	...	...	...	...	1
Pleural Fluid ...	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	2
Cultures	For Indentification of Serological Type (<i>Pneumococcus</i> , <i>Meningococcus</i> , etc.) ...	...	...	...	...	...	...	...	...	...	...	...	8
Blood	For Weil-Felix Reaction (<i>Typhus Fever</i>) ...	...	...	...	...	...	...	...	...	...	...	...	1
Swabs from Gums ...	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	3
Fluid from Cystic Tumour ...	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	1
Exudate from Ulcer of Throat ...	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	1
Fæces	For the presence of Blood ...	...	...	...	...	...	...	...	...	...	...	...	1
Fæces	For <i>Entamœba histolytica</i> (Dysentery) ...	...	...	...	...	...	...	...	...	...	...	...	2
Fæces	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	1
Fæces	For Organisms of Food-poisoning Group ...	...	...	...	...	...	...	...	...	...	...	...	1
Vomit	For Organisms of Food-poisoning Group ...	...	...	...	...	...	...	...	...	...	...	...	3
Milk	For Organisms of Food-poisoning Group ...	...	...	...	...	...	...	...	...	...	...	...	1
Milk	For enumeration of Viable Bacteria and <i>B. coli</i> content ...	...	...	...	...	...	...	...	...	...	...	...	10
Milk Bottle	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	1
Milk Bottle Cap	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	1
Water	General Bacteriological Examination ...	...	...	...	...	...	...	...	...	...	...	...	1
Specimens from Post-mortem Case	For Organisms of the Food-poisoning Group ...	...	...	...	...	...	...	...	...	...	...	...	5

Total Number of Examinations during Year 5745

SPECIAL INVESTIGATIONS.**PARATYPHOID BACILLI IN SEWAGE.**

During the year samples of sewage obtained from the sewers of various districts in the City have been examined for the presence of organisms of the enterica group. In the past the demonstration in sewage and water of specific pathogenic organisms such as the typhoid-paratyphoid group has proved of the utmost difficulty. Methods of selective culture, however, have greatly facilitated their isolation from material in which they are greatly outnumbered by other organisms. By using Wilson's glucose-bismuth-sulphite-iron-brilliant-green medium, the brilliant-green enrichment method introduced by Browning, Gilmour and Mackie, and Rakieten and Rettger's modification of the brilliant-green method, *B. paratyphosus B* (Schottmüller) has been isolated from 7 out of 20 specimens of sewage examined.

At an early stage of the work this organism was isolated from the main sewer of the Corstorphine district, and 16 of the samples were therefore obtained from the same district, with a view to ascertaining whether it was limited to sewage from a localized area.

Since the City of Edinburgh is at present comparatively free from enteric fever the presence of *B. paratyphosus* B in the sewage of this particular district is in all probability mainly due to resident "carriers," and it is significant that this district was the locus of an outbreak of paratyphoid B fever in 1927. Special reference has been made to sewage as a source of this outbreak in last year's Annual Report by the Medical Officer of Health of Edinburgh. Owing to the inability of the main sewer of the district to carry off the excessive volume of water during a flood, two of the byre steadings concerned in the outbreak were inundated with overflow from drains and sewers near-by. It seems possible that the milk may have become infected through contamination of the premises in this way. Of course, for the infection to have been thus transmitted the sewage dammed back into the byres must not only have contained the specific organism at the time in question, but must also have been fairly heavily contaminated in view of the dilution with the flood water. The presence of a "carrier" actually at or near the byres would, of course, increase the probability of this happening, but it must not be forgotten that such a "carrier" may have introduced the infection by more direct contamination of the milk.

The suggestion is put forward that, by ascertaining the points of entry of the *B. paratyphosus* B into the various tributaries of the main sewers found to contain paratyphoid bacilli, "carriers" of the organism might be located with the help of public health officials. This work was discontinued owing to the onset of extremely cold and wet weather, and the question of the distribution of enteric organisms in the other districts of the City, therefore, remains to be determined.

The following paper on the subject has been published :—

"The Isolation of *B. paratyphosus* B from Sewage," by J. D. Allan Gray. *Brit. Med. Jour.*, 1929, 1, 142.

BACILLUS DIPHTHERIAE VIRULENCE TESTS.

Reference was made in the Annual Report of 1927 to the testing of suspected strains of the diphtheria bacillus for virulence. This test is being more frequently used and is increasing in practical value and importance in the control of diphtheria. The ordinary methods used in routine bacteriological diagnosis afford no indication of the virulence of a suspected strain of the diphtheria bacillus, and it is of the utmost importance that virulent organisms should be recognised as apart from avirulent strains, especially in dealing with healthy carriers. The practical application of the virulence test is well exemplified in the investigation of diphtheria outbreaks in schools. Thus, among contacts found to be harbouring diphtheroid bacilli, the carriers of *virulent* diphtheria bacilli can be identified and specially dealt with. The following is illustrative: after an outbreak of diphtheria in a school, throat swabs from 79 contacts were examined: 6 were found to be "positive" by the usual diagnostic method; virulence tests were carried out with pure cultures of the suspected diphtheria bacilli isolated; 2 were found to be virulent, 4 non-virulent; the virulent cultures were from members of the school staff; the avirulent organisms from pupils between nine and fourteen years of age. It was possible in this way to ascertain the origin of the outbreak and control it without isolating and treating carriers of avirulent organisms.

Organisms resembling the diphtheria bacillus are occasionally found in persons suffering from lesions of the middle ear or nasal sinuses, e.g., in children after an attack of diphtheria, scarlatina or measles, or independently of any previous infectious disease. In these cases the virulence test can be used to determine whether such persons constitute carriers requiring isolation and further treatment.

The method which has been adopted for routine tests is as follows :—

The primary culture containing the suspected organisms is plated on Douglas's llurite-trypsin-serum-agar medium to which has been added copper sulphate in a

dilution of 1 in 2000 as advocated by Allison and Ayling of the Metropolitan Asylums' Board Research Service. The addition of copper sulphate to the medium inhibits the growth of Staphylococci and Streptococci and prevents the spread of *B. proteus* while in no way affecting the growth of diphtheroid bacilli ; it has greatly facilitated the isolation of diphtheroid organisms from mixed cultures in which they are relatively scanty. In forty-eight hours the plates are examined and several colonies resembling those of *B. diphtheriae* picked off and subcultured on Loeffler's serum slopes. The colonies of *B. diphtheriae* show a dark centre with a pale periphery on Douglas's medium and are distinctly characteristic especially when examined with a plate-culture microscope. After twenty-four hours' incubation the growths on the Loeffler's serum slopes are examined microscopically, stained by Gram's method, and a pure culture selected. Two guinea-pigs (preferably unpigmented) are taken, one for the test and another as a control. The control animal is given 500 units of diphtheria antitoxin intraperitoneally, and twenty-four hours later both test and control animals receive 0·1 c.c. of a suspension of the organism intracutaneously. This suspension is prepared by emulsifying the growth of the selected culture in about 10 c.c. of sterile normal saline. Four hours later the test animal is given 150 units of diphtheria antitoxin to ensure that it does not succumb to the infection.

Forty-eight hours after the test has been carried out the animals are examined : if the organism tested is virulent, the control animal shows no lesion except the trauma of the needle-puncture, whereas the test animal shows an area of induration about $\frac{1}{2}$ -in. in diameter, and a central area of necrosis at the site of injection.

The results are usually well defined and the test has been found to be most reliable.

Examination of Primary Cultures.—In examining primary throat cultures a variety of different methods of staining have been investigated. Neisser's original method has been found to be the most suitable for routine examinations, although Albert's method (see Mackie and M'Cartney, "Introduction to Practical Bacteriology," pp. 128, 130), which is used mainly in America, gives somewhat clearer definition of the metachromatic granules present in the diphtheria bacillus. In doubtful cases, where the organisms are scanty in culture, it is found advantageous to employ, in parallel, more than one method of staining.

LOCAL IMMUNISATION.

In recent years Besredka and his co-workers in France have advocated in the prophylaxis of certain infective diseases, the local vaccination of tissues for which the infecting organism shows specific predilection, e.g., immunisation against enteric fever by the enteral administration of typhoid-paratyphoid vaccines, immunisation of animals against anthrax by cutaneous vaccination.

The question of local immunisation is obviously one of great practical importance and merits careful study.

The application of Besredka's principle in immunisation against experimental anthrax has been the subject of an inquiry by Dr. A. M. M. Grierson, Assistant Medical Officer of Health, whose observations form the subject of a paper in the Journal of Comparative Pathology, vol. 42, 1929.

AETIOLOGICAL RELATIONSHIP OF STREPTOCOCCI TO CERTAIN SKIN DISEASES.

An investigation has been commenced by Dr. A. M. M. Grierson, Assistant Medical Officer of Health, in association with Dr. G. H. Percival, Assistant Physician, Dermatology Department, Royal Infirmary, and is still in progress, to ascertain the aetiological significance of streptococci in certain types of eczema. By means of special cultural methods,

greater attention is now being paid to the examination of family "contacts," and as a result many cases are detected which otherwise might not have been noticed until later in life.

Sex.	Under 5.	5-10.	10-15.	15-20.	20-25.	25-30.	30-35.	35-40.	40-45.	45-50.	50-55.	55-60.	60-65.	65-70.	70 and over.	Total.
Male . .	11	9	6	39	35	31	35	37	20	19	23	23	15	3	5	311
Female . .	5	5	16	45	41	30	34	20	19	21	11	10	4	4	5	270
Total . .	16	14	22	84	76	61	69	57	39	40	34	33	19	7	10	581

The distribution of the cases according to the different districts of the City and the incidence rate applicable to each area is as follows :—

Area.	Notifications.	Rate per 1000 of Population.
Edinburgh	379	1·2
Leith	140	1·7
Suburban	29	1·0
Institutions, etc.	33	...
Whole City	<u>581</u>	<u>1·4</u>

In the following Table the notifications are arranged according to the Wards in which the homes of the infected persons are situated :—

Notifications.	Rate per 1000.	Notifications.	Rate per 1000.
Calton	24	George Square	25
Canongate	28	St. Leonard's	35
Newington	11	Portobello	35
Morningside	17	South Leith	55
Merchiston	16	North Leith	31
Gorgie	19	West Leith	23
Haymarket	16	Central Leith	31
St. Bernard's	11	Liberton	14
Broughton	12	Colinton	3
St. Stephen's	25	Corstorphine and Cramond	12
St. Andrew's	22	Institutions (other than Sanatoria)	29
St. Giles	52	Military Quarters	4
Dalry	31		...

The incidence of Pulmonary Tuberculosis in the Wards varies from year to year. The outstanding feature, however, is the regularity with which high rates are returned for the Wards where the housing conditions are unsatisfactory, and where congestion of population is only too evident.

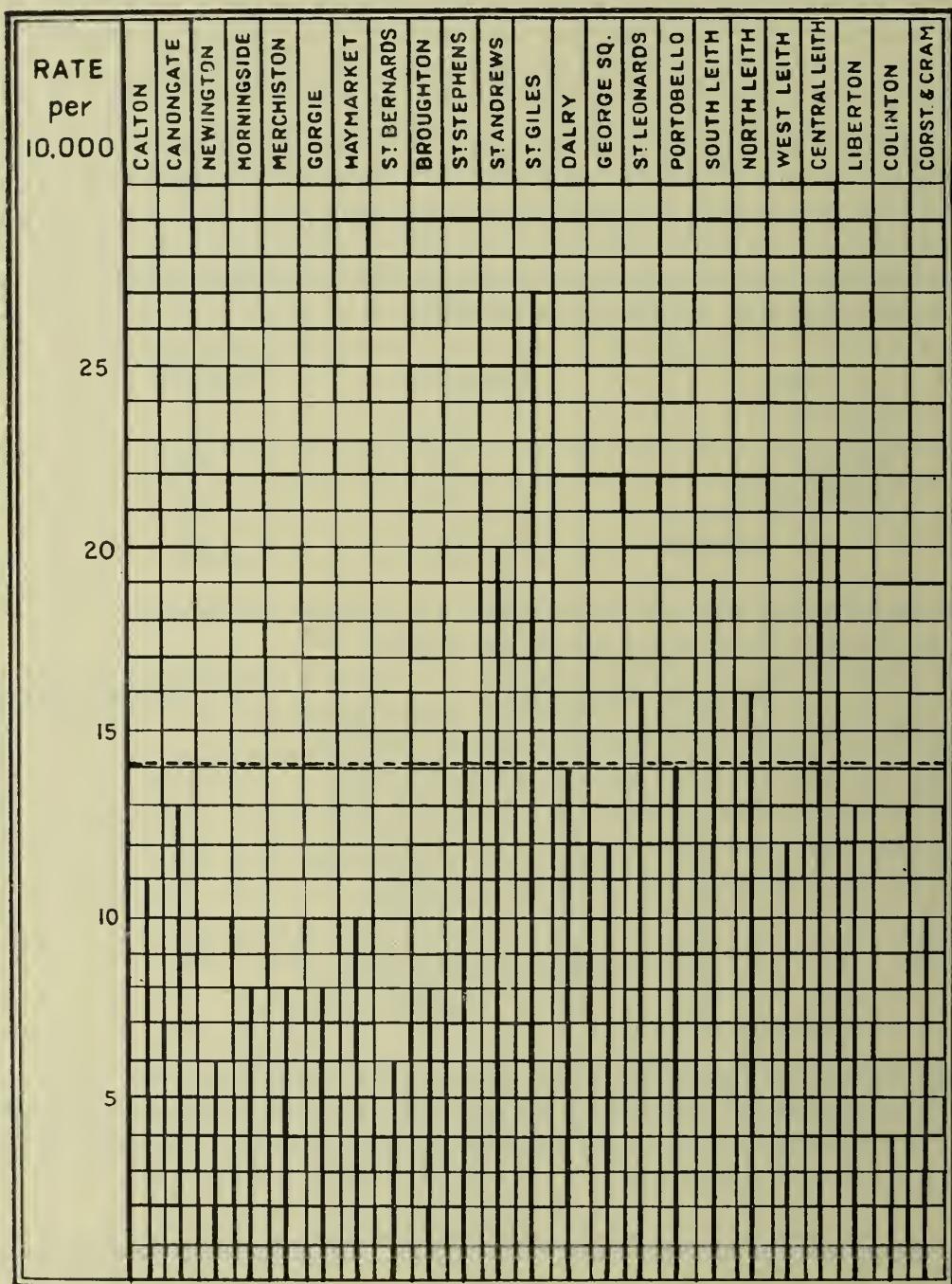
In recent years great efforts have been made to improve the conditions prevailing in our Slum Areas. The Clearance Schemes promoted in these areas are steadily progressing, and many old and insanitary properties have been demolished or reconstructed. The opening up of these congested "black spots" and the consequent reduction of overcrowding will gradually change the whole outlook from a health point of view.

It is, however, too early to expect any great diminution in the incidence of Tuberculosis, but as time goes on the beneficial effect of the progressive policy which is being pursued by the Local Health Authority will undoubtedly become apparent.

The following diagram is inserted in order that comparison can be readily made regarding the incidence of Pulmonary Tuberculosis in the various Wards of the City :—

PULMONARY TUBERCULOSIS.

NOTIFICATIONS PER 10,000 OF POPULATION.



----- Notification Rate for City

In the accompanying Table the notifications are tabulated to show the class of houses occupied by the infected persons :—

1-roomed house.	2-roomed house.	3-roomed house.	4 rooms and over.	Lodging-Houses.	Institutions.	Total.
47	221	139	123	18	33	581

Deaths.—The total number of deaths allocated to the City after correction for transfers was 345. Of these, 20 occurred at Bangour Village, which is under the supervision of the Edinburgh District Board of Control, and 7 in various other parts of Scotland.

The death-rate for the year was equal to .8 per 1,000 persons living, as compared with .9 in 1927 and .8 in 1926.

The number of deaths in the different areas of the City, together with the death-rates per 1,000 of the population, are shown in the accompanying statement:—

Area.	Deaths.	Rate per 1000 of Population.
Edinburgh	240	.8
Leith	76	.9
Suburban	19	.8
Institutions	10	...
Whole City . .	<u>345</u>	<u>.8</u>

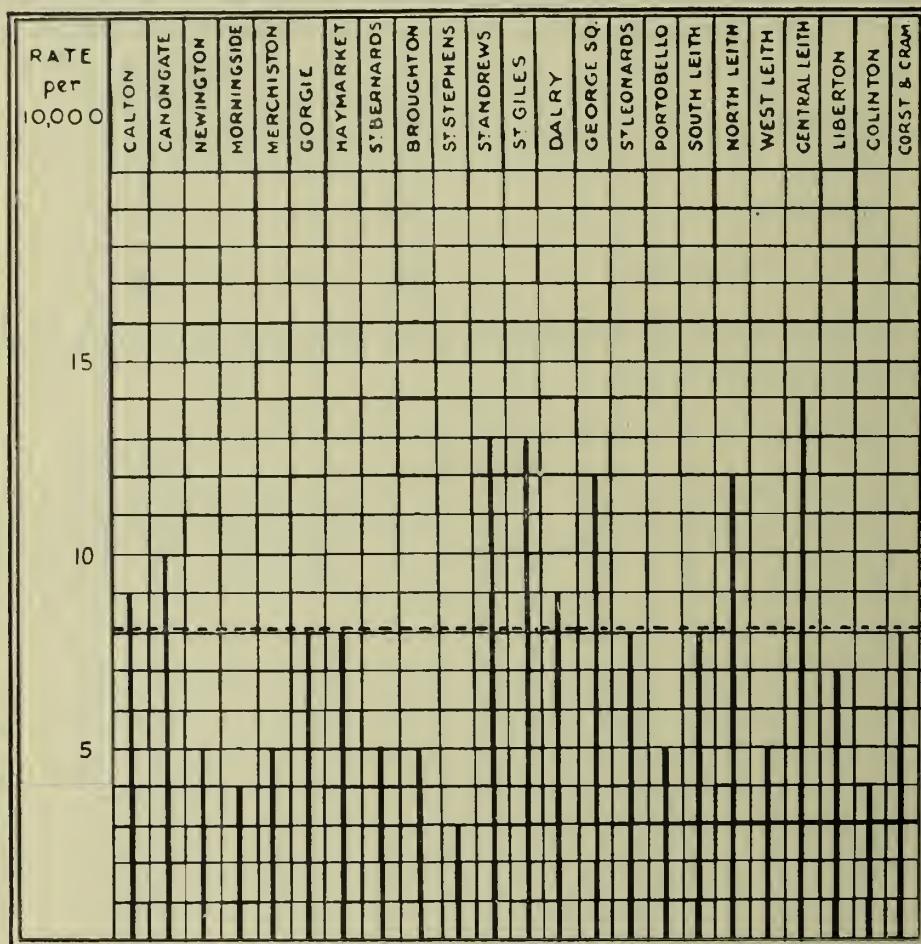
The next Table shows the distribution of the deaths in the various Wards, with the death-rates applicable to each:—

WARDS.	Number of Deaths.	Rate per 1000.	Sex.		Age-periods.							
			Male.	Female.	Under 15 years.	15 and under 20 years.	20 and under 25 years.	25 and under 35 years.	35 and under 45 years.	45 and under 55 years.	55 and under 65 years.	65 years and upwards.
Alton	21	.9	12	9	1	2	3	3	4	5	2	1
Broughton	21	1.0	7	14	...	4	3	4	6	4	...	...
Cowcaddens	10	.5	5	5	...	...	2	...	6	1	1	...
Darnley	9	.4	8	1	...	...	...	4	4	...	...	1
Erchiston	11	.5	4	7	...	...	...	1	1	5	2	2
Frigie	17	.8	9	8	3	...	2	3	5	2	2	...
Gaymarket	14	.8	11	3	1	1	1	3	3	2	3	...
Bernard's	9	.5	4	5	...	...	3	2	1	1	2	...
Roughton	8	.5	5	3	1	...	...	2	2	1	2	...
Stephen's	5	.3	4	1	1	...	...	1	1	2	1	...
Andrew's	14	1.3	9	5	1	1	...	3	4	4	1	...
Giles	25	1.3	14	11	2	5	8	1	3	3	1	2
Alry	19	.9	11	8	...	3	...	6	4	3	2	1
George Square	26	1.2	14	12	2	3	2	10	5	2	1	1
Leonard's	17	.8	10	7	...	1	5	3	4	2	1	1
Ortobello	14	.5	6	8	1	3	2	3	3	2	...	...
South Leith	25	.8	15	10	2	5	4	3	2	4	5	...
North Leith	22	1.2	11	11	...	4	1	6	5	4	1	1
West Leith	9	.5	5	4	1	2	...	2	1	2	1	...
Central Leith	20	1.4	10	10	1	4	1	5	4	1	3	1
Berthon	7	.7	1	6	2	1	1	1	...	...	1	1
Clinton	3	.4	3	...	...	...	...	1	...	...	2	...
Morningside and Cramond Institutions (other than Sanatoria)	9	.8	8	1	1	1	1	1	1	3	...	1
Military Quarters	1	...	1	...	...	...	...	1	1	...	...	...
Totals . . .	345	.8	195	150	20	40	40	69	70	54	38	14
Edinburgh Area . . .	240	.8	133	107	13	23	31	48	56	39	21	9
Leith Area	76	.9	41	35	4	15	6	16	12	11	10	2
Suburban Area	19	.8	12	7	3	2	2	3	1	3	3	2
Institutions	10	...	9	1	...	...	1	2	1	1	4	1

The following diagram shows the death-rates recorded in the respective Wards, and on the opposite page another diagram is given showing the decline in the death-rate from Pulmonary Tuberculosis since 1873.

PULMONARY TUBERCULOSIS.

DEATH-RATE PER 10,000 OF POPULATION.



----- Death Rate for City

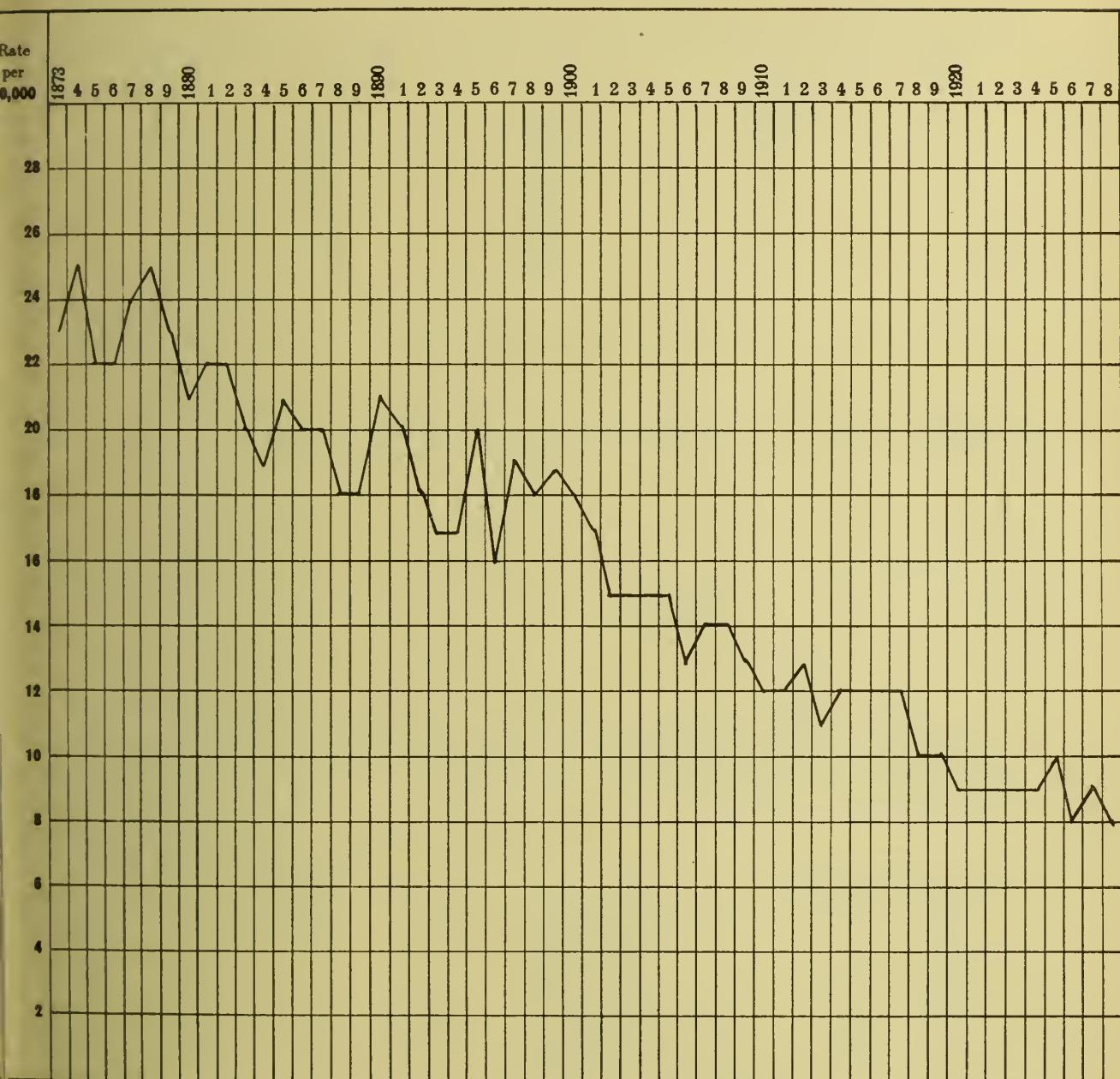
Deaths in relation to Notification.—In the next Table the deaths from Pulmonary Tuberculosis since 1921 are classified to show the time elapsing between notification and death :—

Year.	Within 1 month.	From 1 to 3 months.	From 3 to 6 months.	From 6 months to 1 year.	From 1 to 2 years.	Over 2 years and under 3.	Over 3 years and under 4.	From 4 years upwards.	Notified after Death.	Total.
1921	45	47	29	60	43	21	7	19	110	381
1922	38	37	43	56	53	23	13	25	79	367
1923	51	49	30	45	49	35	13	38	87	397
1924	49	48	49	51	67	34	21	49	56	424
1925	57	47	35	38	48	28	14	47	87	401
1926	49	42	36	38	42	27	11	42	69	356
1927	46	41	28	47	60	30	14	47	68	381
1928	56	41	23	26	47	26	14	51	61	345

It is a regrettable feature of notification that year after year so many cases should only come to the knowledge of the Department when the disease has reached an advanced stage, or through the medium of the weekly death returns.

In this connection it is important that the attention of the Profession should be called to the Pulmonary Tuberculosis Regulations, 1912, which provide "That every Medical Practitioner attending on or called in to visit any person shall, within 48 hours

EDINBURGH
PULMONARY TUBERCULOSIS
DEATH RATE PER 10,000 OF POPULATION.



after first becoming aware that such person is suffering from Pulmonary Tuberculosis, complete, sign and transmit a notification of the case in the form set forth in Schedule A to these Regulations, to the Medical Officer of Health of the district in which the person is residing."

NON-PULMONARY TUBERCULOSIS.

Notifications.—After making the necessary corrections for duplicate notifications and those referring to non-residents, the total number of new cases applicable to the City for the year was 347, as compared with 359 in 1927 and 433 in 1926.

The following summary shows the number of cases reported in each of the eight years subsequent to the amalgamation of the City with Leith and the Suburban Area :—

Year.	Notifications.	Rate per 1000 of Population.
1921	537	1·3
1922	485	1·1
1923	482	1·1
1924	455	1·1
1925	498	1·2
1926	433	1·0
1927	359	.8
1928	347	.8

The age and sex incidence is shown in the following Table :—

Sex.	Under 5.	5-10.	10-15.	15-20.	20-25.	25-30.	30-35.	35-40.	40-45.	45-50.	50-55.	55-60.	60-65.	65-70.	70 and over.	Total.
Male . .	62	35	15	21	4	8	5	2	4	1	7	1	2	3	...	170
Female . .	36	33	13	22	19	12	5	16	3	5	3	3	1	4	2	177
Total . .	98	68	28	43	23	20	10	18	7	6	10	4	3	7	2	347

In the next Table the notifications are allocated to the various Wards of the City. It is, however, difficult to make any accurate deductions as to excessive prevalence in any particular district, on account of the fact that fully 47 per cent. of the notifications refer to children under ten, and no definite information is available regarding the age incidence of the population resident in the Wards.

	Notifications.	Rate per 1000.		Notifications.	Rate per 1000.
Calton	16	.7	George Square	21	1·0
Canongate	26	1·2	St. Leonard's	33	1·5
Newington	14	.8	Portobello	28	1·1
Morningside	7	.3	South Leith	22	.8
Merchiston	8	.4	North Leith	19	1·0
Gorgie	14	.6	West Leith	3	.2
Haymarket	7	.4	Central Leith	11	.8
St. Bernard's	10	.6	Liberton	5	.5
Broughton	5	.3	Colinton	7	1·0
St. Stephen's	15	.9	Corstorphine and Cramond	12	1·0
St. Andrew's	5	.5	Institutions (other than Sanatoria)	5	...
St. Giles	35	1·8	Military Quarters	4	...
Dalry	15	.7			

Edinburgh, 259=.8; Leith, 55=.7; Suburban, 24=.8; Institutions, etc., 9.

In the undernoted Table the notifications are classified according to the type of houses from which they emanate :—

1-roomed house.	2-roomed house.	3-roomed house.	4 rooms and over.	Lodging-Houses.	Institutions.	Total.
48	126	94	67	3	9	347

In the accompanying list the cases are tabulated to show the region affected by the disease :—

Glands	123	Rib	2
Abdomen	79	Not specified	1
Meninges and Brain	47		— 19
Lupus	4		
Genito-Urinary	19	Joints—	
Spine	21	Hip	7
General	7	Shoulder	1
	— 300	Elbow	2
Bones (except Spine)—		Knee	5
Thigh	2	Ankle	1
Leg	3	Not specified	4
Foot	4		— 20
Arm	1		Others
Hand	6		8
			Total
			— 347

Deaths.—The deaths from all forms of Non-Pulmonary Tuberculosis numbered 103, as compared with an annual average of 140 for the preceding five years.

In the following Table the deaths are classified to show the organ or site affected by the disease, and the age at which death occurred. Of the total deaths 44 were ascribed to Tuberculous Meningitis, while the Abdomen was given as the site of the disease in 26 instances :—

		All Ages.			Age Periods.																				85 and over.
		Both Sexes.	Males.	Females	-1		1-		5-		10-		15-		25-		35-		45-		55-		65-		
					1	2	1	2	5	6	1	2	5	6	25	26	35	36	45	46	55	56	65	66	75	76
Tuberculous Meningitis	44	22	22	9	16	8	...	6	3	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...
Tuberculosis of Intestines and Peritoneum	26	12	14	1	6	1	1	5	6	...	2	2	1	1	...	2	2	1	1	...	1	...	1	...	
" " Spine	4	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...
" " Joints	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
" " Skin . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
" " Bones (except spine)	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	...	1
" " Lymphatic System	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	...	1	...
" " Genito-urinary System	4	2	2	...	...	...	...	...	2	1	1	...	...	...	...	2	1	1	...	...	...	...	...	...	...
Disseminated Tuberculosis, acute & chronic	20	8	12	1	4	3	1	3	1	3	1	3	2	1	1	2	1	1	1	1	...	...	...	...	...
Other Non-Pulmonary Tuberculosis	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Totals	103	46	57	11	26	12	2	16	12	6	7	6	4	1	...	...	...	...	...	...	...	...	...	...	...

The accompanying death-rates relative to the incidence of Tuberculosis in the eight large Scottish towns have been extracted from the Registrar-General's preliminary statement for 1928 :—

Town.	Death-rate per 1000.		Town.	Death-rate per 1000.	
	Pulmonary Tuberculosis.	All forms of Tuberculosis.		Pulmonary Tuberculosis.	All forms of Tuberculosis.
Glasgow . . . . .	.89	1.23	Paisley . . . . .	.95	1.33
Edinburgh . . . . .	.81	1.05	Greenock . . . . .	.80	1.14
Dundee . . . . .	.80	1.05	Motherwell & Wishaw . . . . .	.47	.70
Aberdeen . . . . .	.70	.98	Clydebank . . . . .	.67	1.03

The next Table shows the deaths from Tuberculosis which have occurred annually since 1900, together with the death-rates per 1,000 of the population :—

DEATHS FROM TUBERCULOSIS, 1900-1928.

YEAR.	Pulmonary Tuberculosis.				Other Tuberculous Disease.				All Tuberculosis.	
	Deaths.			Rate per 1000.	Deaths.			Rate per 1000.	Deaths	Rate per 1000.
	Male.	Female.	Total.		Male.	Female.	Total.			
1900	302	246	548	1.8	141	129	270	.9	818	2.7
1901	284	241	525	1.7	148	129	277	.9	802	2.6
1902	262	215	477	1.5	120	95	215	.7	692	2.2
1903	244	223	467	1.5	114	117	231	.7	698	2.2
1904	223	185	408	1.3	121	125	246	.8	654	2.1
1905	232	206	438	1.4	109	93	202	.6	640	2.0
1906	193	180	373	1.2	108	110	218	.7	591	1.9
1907	203	192	395	1.2	123	100	223	.7	618	1.9
1908	197	198	395	1.2	123	92	215	.7	610	1.9
1909	251	177	428	1.3	90	103	193	.6	621	1.9
1910	223	166	389	1.2	82	83	165	.5	554	1.7
1911	211	181	392	1.2	101	92	193	.6	585	1.8
1912	226	180	406	1.3	93	87	180	.6	586	1.9
1913	186	178	364	1.1	84	91	175	.5	539	1.6
1914	213	166	379	1.2	89	101	190	.6	569	1.8
1915	193	179	372	1.2	92	69	161	.5	533	1.7
1916	198	158	356	1.1	81	82	163	.5	519	1.6
1917	201	190	391	1.2	100	84	184	.6	575	1.8
1918	141	180	321	1.0	74	89	163	.5	484	1.5
1919	161	159	320	1.0	70	82	152	.5	472	1.5
1920	161	125	286	.9	69	62	131	.4	417	1.3
*1921	187	194	381	.9	96	87	183	.4	564	1.3
1922	187	180	367	.9	72	93	165	.4	532	1.3
1923	214	183	397	.9	70	68	138	.3	535	1.2
1924	225	199	424	1.0	73	70	143	.3	567	1.3
1925	215	186	401	1.0	89	76	165	.4	566	1.4
1926	201	155	356	.8	60	66	126	.3	482	1.1
1927	193	188	381	.9	75	55	130	.3	511	1.2
1928	195	150	345	.8	46	57	103	.2	448	1.0

*City Boundaries extended to include Leith and Suburban Area.

INSTITUTIONAL TREATMENT.

The total number of beds available for the residential treatment of Tuberculosis patients at the hospitals under the control of the Department is as follows :—

Royal Victoria Hospital, Pulmonary Tuberculosis	.	.	82 beds.
Pilton Hospital	,	,	115 ,
Polton Farm Colony	,	,	21 ,
Colinton Mains Hospital	,	,	48 ,
,	,	Non-pulmonary Tuberculosis	63 ,
		Total	329 beds.

Royal Victoria Hospital.—The bed accommodation at this Institution is, as far as possible, reserved for the treatment of patients in the early stages of Pulmonary Tuberculosis.

There is always a demand for admission to the Hospital, and the following Table shows the number of patients dealt with during the year :—

	Remained at 31st December 1927.	Admitted.	Discharged.	Died.	Remaining at 31st December 1928.
Men . .	30	96	92	...	34
Women . .	31	88	89	1	29
Children . .	6	27	27	...	6
Totals .	67	211	208	1	69

In the course of the year 208 patients were discharged from the Hospital, and one died. A number of patients were admitted for observation purposes, and some were ultimately found to be suffering from conditions other than Pulmonary Tuberculosis.

The particulars in the following statistical Tables refer only to those patients finally diagnosed as true cases of the disease.

Sex and age distribution of the discharged patients :—

	Under 5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	Over 60.	Total.
Males	2	8	13	21	20	7	8	...	79
Females	1	12	14	30	20	6	3	...	86
Totals	3	20	27	51	40	13	11	...	165

In the next Table the cases have been classified to show the stage of the disease on admission to hospital, and the condition of the patients on the completion of their treatment :—

STAGE I.—	Stage of Disease on Admission.			Condition on Discharge.			Died.
	A	B	C	Disease Arrested.	Improved.	Not Improved.	
Male . . .	24	17	1	10	27	5	...
Female . . .	22	25	...	12	33	2	...
Total . . .	46	42	1	22	60	7	...
STAGE II.—							
Male . . .	6	14	4	2	15	7	...
Female . . .	2	15	5	...	14	8	...
Total . . .	8	29	9	2	29	15	...
STAGE III.—							
Male . . .	3	7	3	2	6	5	...
Female . . .	3	7	7	...	9	7	1
Total . . .	6	14	10	2	15	12	1
Totals . . .	60	85	20	26	104	34	1

PRESENCE OR ABSENCE OF TUBERCLE BACILLI.

ON ADMISSION.

	T.B. Present.	T.B. Absent.
Stage I . . .	24	65
" II . . .	31	15
" III . . .	23	7
Totals . . .	78	87

ON DISCHARGE.

	T.B. Present.	T.B. Absent.
	20	69
	28	18
	21	9
	69	96

The complications noted in patients during the year were as follows :—

Pleurisy	5	Influenza	1
Adenitis	2	Empyema	1
Tuberculous Laryngitis	2	Pyopneumothorax	1
		Total	12

DURATION OF RESIDENCE.

The average stay in Hospital of the discharged patients was 104 days.

Pilton Hospital.—Previous to the extension of the City boundaries in 1920 this Hospital was used by the Burgh of Leith for the treatment of Infectious Diseases. As a result of the subsequent reorganisation of the Health Department it was decided to centralise the treatment of Infectious Disease at the City Hospital, Colinton Mains, and to utilise a large portion of the accommodation at Pilton Hospital for the segregation of the more advanced cases of Pulmonary Tuberculosis.

The Institution now forms one of the most valuable adjuncts to the Tuberculosis Scheme, and it has been necessary to increase the bed accommodation.

The majority of the 394 patients admitted during the year were classified under Stage III. of the disease, and while in most cases the condition offered little hope of any permanent benefit, the removal to Hospital was justified on the ground that active sources of infection were being isolated.

The extent to which the Hospital is utilised is shown in the following Table :—

	Remained at 31st December 1927.	Admitted.	Discharged.	Died.	Remaining at 31st December 1928.
Men . .	40	161	102	52	47
Women . .	44	171	123	53	39
Children . .	7	17	17	3	4
Totals . .	91	349	242	108	90

Throughout the year 242 patients were discharged from the Hospital, and 108 died. Of these, 306 were definitely classified as Pulmonary Tuberculosis, and it is only those cases that are dealt with in the accompanying Tables.

Sex and age distribution of discharged patients :—

	Under 5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	Over 60.	Total.
Males . .	1	1	4	16	29	32	20	28	11	142
Females . .	...	2	4	29	55	34	24	14	2	164
Totals . .	1	3	8	45	84	66	44	42	13	306

In the next Table the patients are classified according to the Stage of the disease on admission and their condition on discharge :—

	Stage of Disease on Admission.			Condition on Discharge.		Died.
	A	B	C	Improved.	Not Improved.	
STAGE I.—						
Male . .	6	2	3	9	...	2
Female . .	8	3	...	10	1	...
Total . .	14	5	3	19	1	2
STAGE II.—						
Male . .	1	35	5	29	6	6
Female . .	1	33	5	24	6	9
Total . .	2	68	10	53	12	15
STAGE III.—						
Male . .	2	47	41	29	20	41
Female . .	3	42	69	41	28	45
Total . .	5	89	110	70	48	86
Totals . .	21	162	123	142	61	103

PRESENCE OR ABSENCE OF TUBERCLE BACILLI.

	ON ADMISSION.		ON DISCHARGE.	
	T.B. Present.	T.B. Absent.	T.B. Present.	T.B. Absent.
Stage I. .	6	16	5	17
" II. .	44	36	43	37
" III. .	155	49	149	55
Totals . .	205	101	197	109

DURATION OF RESIDENCE.

The average stay in Hospital of the discharged patients was 103 days.

Colinton Mains Hospital.—There are 63 beds available at this Hospital for the treatment of the Non-Pulmonary forms of Tuberculosis.

In addition to this accommodation, there is an annexe to the Hospital which was taken over from the Parish Council Authorities and where provision is made for the treatment of 48 patients affected with Pulmonary Tuberculosis.

The Pavilions used for the Non-Pulmonary patients were originally intended for the treatment of Pulmonary Tuberculosis. With, however, the additional accommodation which came under the control of the Department through the taking over of the Royal Victoria and Pilton Hospitals, it became possible to utilise the beds set free at Colinton Mains for their present purpose.

The Pavilions, photographs of which appear on the opposite page, are fitted with every necessary convenience for the treatment of Tuberculosis. The buildings are open to the front, but are capable of being closed in boisterous weather by movable screens.

During the year 99 patients were admitted to the Hospital for treatment—59 being Pulmonary cases and 40 Non-Pulmonary.

The particulars in the following Tables refer only to the Non-Pulmonary patients :—

PATIENTS ADMITTED AND DISCHARGED.

Sex.	Number of Patients at 31st December 1927.	From 1st Jan. to 31st Dec. 1928.			Number of Patients remaining at 31st Dec. 1928.
		Admitted.	Discharged.	Died.	
Males . .	46	19	17	3	45
Females . .	29	21	18	2	30

AGE DISTRIBUTION OF PATIENTS ADMITTED.

Sex.	Under 5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-65.	Total.
Males . . .	1	1	3	7	2	2	...	3	19
Females . . .	6	5	3	2	1	3	...	1	21

TUBERCULOSIS PAVILIONS
COLINTON MAINS HOSPITAL



PARTS AFFECTED BY DISEASE IN PATIENTS ADMITTED.

Part Affected.	Males.	Females.	Part Affected.	Males.	Females.
Abdomen . . .	2	5	Leg, Foot . .	1	1
Spine . . .	6	8	Other Forms . .	3	2
Glands . . .	2	2			
Multiple . . .	1	...			
Hip . . .	3	2			
Knee . . .	1	1	Totals . . .	19	21

CONDITION OF PATIENTS ON DISCHARGE.

	Males.	Females.	Total.
Apparently Cured	6	9	15
Improved . .	10	7	17
Not Improved . .	1	2	3
Totals . . .	17	18	35

PARTS AFFECTED BY DISEASE IN PATIENTS WHO DIED, WITH ULTIMATE CAUSE OF DEATH.

Part Affected.		
Males	Ribs	—Tuberculous Empyema, Cachexia.
	Abdomen	—Tuberculous Peritonitis.
	Bladder	—Tuberculosis of Bladder and Kidney, General Peritonitis.
Females	Abdomen	—General Tuberculosis.
	Spine	—Tuberculosis of Spine.

RESULTS WITH REGARD TO PATIENTS DISCHARGED OR DYING DURING THE YEAR 1928.

Parts affected on Admission.	MALES.	Appa- rently Cured.	Improved.	Not Im- proved.	Died.	FEMALES.	Appa- rently Cured.	Improved.	Not Im- proved.	Died.	Average duration of stay in hospital in days.	Total number of patients with parts affected.
Abdomen . . .	5	2	2	...	1	8	4	2	1	1	320	13
Dactylitis . . .	2	1	1	...	...	...	...	...	...	...	618	2
Elbow . . .	...	...	...	...	...	1	1	...	...	...	334	1
Foot . . .	2	1	1	...	...	...	...	...	...	...	138	2
Genito-Urinary . . .	1	...	...	...	1	1	...	...	1	...	288	2
Glands . . .	2	1	1	...	...	3	...	3	...	...	371	5
Hip . . .	2	...	2	...	...	2	1	1	...	...	553	4
Knee . . .	1	...	1	...	...	...	...	...	...	...	65	1
Mastoid . . .	...	...	...	...	...	1	1	...	...	...	122	1
Multiple . . .	1	...	...	1	...	...	...	...	...	...	274	1
Ribs . . .	1	...	...	1	...	...	...	...	...	...	35	1
Spine . . .	3	1	2	...	...	4	2	1	...	1	495	7
Totals . . .	20	6	10	1	3	20	9	7	2	2	301	40

Polton Farm Colony.—During the year 16 patients were admitted to the Colony, and 11 were discharged. The patients at the Colony engage in a course of training in pig-breeding and poultry-rearing under the supervision of an experienced manager. The majority of the patients benefit greatly by this form of occupational treatment, and permanent improvement has been noted in many instances.

The expenditure in connection with the upkeep of the Colony for the year to 15th May amounted to £3,097, while the revenue from the sale of pigs, poultry, eggs, and other produce was £1,557.

TUBERCULOSIS DISPENSARIES.

There are two Dispensaries provided by the Corporation in connection with the Scheme for the prevention and treatment of Tuberculosis. The Royal Victoria Dispensary is situated in a central and thickly-populated part of the City, while the Leith Dispensary is convenient for the residents in that district.

The nursing staff attached to the Dispensaries consists of eight nurses, who give special attention to the patients in their own homes. There is also a qualified nurse in charge of the Artificial Sunlight Clinic at the Royal Victoria Dispensary.

Clinical examination of patients is conducted daily at the respective Dispensaries and facilities are provided at the Royal Victoria Dispensary for X-Ray examinations. There is also a well-equipped Laboratory where a considerable amount of bacteriological work was carried out in the course of the year.

A summary of the attendances at the two Dispensaries is given below :—

		New Cases.		Old Cases.	
		Edinburgh.	Leith.	Edinburgh.	Leith.
Men		499	52	2897	656
Women		570	92	3084	594
Children		839	186	3681	413
Total		<u>1908</u>	<u>330</u>	<u>9662</u>	<u>1663</u>

Home Visitation.—The home treatment of Tuberculosis patients is systematically carried on by the Staff attached to the Dispensaries. During the year the Doctors and Nurses made 12,201 visits to patients in their own homes, and the number of visits in each month was as follows :—

	Insured.	Not Insured.	Total.		Insured.	Not Insured.	Total.
January	511	516	1,027	August	336	428	764
February	465	598	1,063	September	467	464	931
March	549	627	1,176	October	625	674	1,299
April	373	378	751	November	533	635	1,168
May	524	537	1,061	December	425	618	1,043
June	569	600	1,169		<u>5,710</u>	<u>6,491</u>	<u>12,201</u>
July	333	416	749				

Artificial Sunlight Clinic.—A Clinic for the treatment of patients by the "Ultra Violet Rays" was opened in the month of March 1927 at the Royal Victoria Dispensary. An apartment has been fitted up and equipped with four Arc Lamps and one Mercury Vapour Lamp, and a nurse specially trained in the work is in charge of the Clinic.

The cases are selected by the Doctors attached to the Department, and during the year 302 cases have undergone a course of treatment.

In all, 12,607 exposures were made, of which 7,557 related to medical cases, 4,261 were surgical, and 789 were Child Welfare cases. In addition to this, dressings to the number of 709 were applied.

The tonic effect on the patients is very satisfactory, and lasting benefit is looked for in many cases.

Extra Nourishment.—This form of treatment is granted to domiciliary patients who are unable to provide it for themselves. Where the Tuberculosis Officer is satisfied that the case is a suitable one, an order is issued for a daily supply of milk, eggs, and butter. The cases are reviewed periodically, and if the circumstances are unchanged, a further order is issued.

The expenditure for the year in connection with this form of treatment amounted to £195, 6s. 5d.

Drugs.—The patients attending the Dispensaries are supplied with all necessary Drugs free of charge. The Department has also expended the sum of £195 in providing Drugs for Tuberculosis patients on whose behalf prescription forms had been issued by Medical Practitioners throughout the City.

These prescription forms are received from the various chemists at the close of each financial month, and by arrangement are sent to the Central Checking Bureau in Glasgow for priceing previous to payment. This ensures conformity to a scale of prices in force throughout Scotland.

AFTER-CARE COMMITTEE.

I have again to commend the work of the Voluntary After-Care Committee. During the year the Ladies of the Committee have rendered much valuable assistance, and I am grateful for their co-operation in many difficult cases.

It is only those in close touch with the poorer class of Tuberculosis patients who can fully realise the difficulties which confront many of these unfortunate sufferers and their families. In dealing with such cases the help secured through the efforts of the Committee has been much appreciated.

CITY HOSPITAL.

REPORT BY THE RESIDENT PHYSICIAN.

I have the honour to present the Annual Report of the City Hospital for the year 1928. During the year there were 3,083 patients admitted to the wards, of whom 99 were suffering from Tuberculosis. The above total includes cases admitted from districts outside the City boundaries. The greatest number treated in Hospital on any one day was 434, and the average daily number under treatment was 328.

The year under review, as compared with recent years, was a quiet one. The marked diminution in the number of cases admitted to the Hospital is accounted for by the unusually low incidence of Scarlet Fever.

The number of cases of Puerperal Fever admitted to the wards has increased markedly during the past two years. From the year 1921 to the year 1926 inclusive, on an average 20 cases of Puerperal Sepsis were treated each year. During the year 1927 the admissions jumped to 62, and last year to 72 cases. Should this increase continue a special Pavilion will have to be set aside for this type of case. The appointment of a Gynaecological Consultant requires consideration.

Now that fresh air and sunshine are being more appreciated as therapeutic agencies we find that the balcony accommodation at the Hospital is inadequate.

It is with deep regret that I have to record the death of Miss M'Nair, the Assistant Matron. The nursing profession has lost a member whose devotion to duty, and sympathetic personality endeared her to patients and colleagues alike. Her death was a great loss to the Hospital service.

The incidence of infectious disease among the staff was rather high. Six nurses suffered from Diphtheria, three from Mumps, two from Measles, five from Rubella, and one each from Erysipelas and Chickenpox respectively.

The incidence of Diphtheria was unusually high when we consider the efforts made to protect the nursing staff against the disease. Four nurses, in whom, as indicated by the persistence of the Schick positive reaction, successful immunisation had not been attained, contracted the disease. It is disconcerting to note that other two infections occurred in nurses who had apparently been successfully immunised. In every case, however, the attack was very mild, and rapid recovery ensued. There is little doubt that immunisation by toxoid-antitoxin injections, whilst not ensuring absolute protection in all cases, diminishes very markedly the severity of the subsequent infection.

The complete freedom of the nursing staff from Scarlet Fever during the year under review indicates in no uncertain manner the value of the Dick test and subsequent immunisation of susceptible individuals.

During the year, 34 nurses completed their training. Of these, 22 went to various hospitals to commence their general training, and 9 obtained posts as staff nurses in this, or other fever hospitals. Twenty-eight nurses passed the State Examination.

One hundred and ninety-four students attended clinics at the hospital. These were divided into six sections entailing 72 hours' teaching. One class was held for candidates for the Diploma in Public Health, and was attended by 15 graduates. Three meetings during the summer vacation were devoted to post-graduate instruction. Including lectures to the nursing staff, 170 hours were devoted to teaching during the course of the year.

Dr. W. T. Gardiner, our Otologist, has again proved indispensable. He performed 12 mastoid operations and 105 operations for the removal of tonsils and adenoids. The

latter operation is undoubtedly the most hopeful method available for clearing up either a persistent discharge from nose or ear in scarlatinal convalescents, or the carrier condition in diphtheria. Dr. Gardiner's aid has also been greatly appreciated in dealing with cases of laryngeal stenosis which occasionally arise subsequent to diphtheria.

We are fortunate in having Dr. James as our consultant physician. Dr. Craig has carried out the duties of Senior Medical Assistant in a very praiseworthy manner. The Junior Assistant Medical Officers have worked with care and enthusiasm in the wards.

I cannot speak too highly of the Matron, Sisters, and Nursing Staff for their untiring devotion to the welfare of the patients, and for their loyal support in all difficulties.

The Steward, and the various officials responsible for the kitchen, laundry, and dispensary, have all maintained the efficiency of their respective departments at a high level.

I append the usual reports relating to the various infectious diseases treated in the hospital.

I have the honour to be, Sir,

Your obedient Servant,

W. T. BENSON,
M.D. (Ed.), B.Sc. (St. And.), D.P.H. (Camb.),
D.T.M. & H. (Lond.), F.R.C.P. (Ed.).

D I P H T H E R I A.

Of 836 cases admitted to the Diphtheria pavilions, 602 were finally diagnosed as suffering from Diphtheria. Of the remainder, 77 were "carriers," whilst no fewer than 157 were found to be suffering from diseases other than Diphtheria. Various forms of Tonsillitis accounted for 94 cases ; Catarrh, Laryngitis, Bronchitis or Pneumonia was present in 36 ; Scarlet Fever, Vincent's Angina, and various other morbid conditions were noted in the remainder.

There were 26 deaths ascribed to Diphtheria. The mortality per cent. was 4.3. This is the lowest figure in the hospital records. The mortality of the 55 Laryngeal cases was 16.3 per cent.—again the lowest figure for many years. Fifteen Laryngeal cases required operative interference. Intubation was performed in 10 cases of whom 3 died ; of 5 cases subjected to tracheotomy 1 died.

The Paralysis rate was 6.1 per cent., indicating on the whole a mild type of the disease.

Serum rashes were noted in 51 cases, or 8.4 per cent. of the Diphtheria patients treated.

Of the 26 deaths from Diphtheria no fewer than 7 occurred within 24 hours of entry to hospital, the patient in each case being admitted in a moribund condition. In other 14 patients treatment had been delayed until the fifth day of disease or later.

Table showing age and sex of Diphtheria patients :—

Age-period in years . .	0-1 yrs.	1-2 yrs.	2-3 yrs.	3-4 yrs.	4-5 yrs.	5-10 yrs.	10-15 yrs.	15-20 yrs.	20-30 yrs.	30-40 yrs.	40-50 yrs.	Totals.
Recovered { Males . .	1	10	18	17	22	105	32	16	16	3	2	242
	1	7	7	15	28	137	46	31	44	13	5	334
Died { Males . .	...	2	...	3	1	6	1	...	...	...	...	13
	...	1	...	2	...	6	4	...	...	...	...	13
Totals . .	2	20	25	37	51	254	83	47	60	16	7	602

Hospital death-rate, 4.3 per cent.

SCARLET FEVER.

During the year 912 cases were admitted to the wards notified as Scarlet Fever. The diagnosis was confirmed in 823 patients. Various forms of Tonsillitis, or Erythema, accounted for 57 of the 89 misdiagnosed cases.

The unusually low incidence of Scarlet Fever is indicated by comparison with the average number of true scarlatina cases treated in each of the nine previous years, namely, 1637.

There were 7 deaths. The case mortality rate was 0·85 per cent., the lowest recorded at the hospital. Of six septic cases one died. No toxic cases were admitted.

The following are the principal complications which were noted :—

Late Adenitis	117	cases, or 14·2 per cent.
Rhinitis	157	„ 19·0 „
Otorrhœa	89	„ 10·8 „
Arthritis	18	„ 2·2 „
Nephritis	15	„ 1·8 „

Table showing age and sex of Scarlet Fever patients :—

Age-period in years.	0-1 yr.	1-2 yrs.	2-3 yrs.	3-4 yrs.	4-5 yrs.	5-10 yrs.	10-15 yrs.	15-20 yrs.	20-30 yrs.	30-40 yrs.	40-50 yrs.	50-60 yrs.	60-70 yrs.	Totals.
Recovered { Males	14	19	33	30	151	52	19	18	7	...	1	...	344
	...	5	25	36	27	228	67	26	44	7	7	...	...	472
Died { Males	1	...	4	...	...	...	...	...	...	...	...	...	5
	1	...	...	1	...	...	...	...	...	...	...	2
Totals	20	45	73	57	380	119	45	62	14	7	1	...	823

Hospital death-rate, 0·8 per cent.

There were 20 alleged "infecting cases," or 2·4 per cent. of the total number of Scarlet Fever convalescents discharged. The 20 "infecting cases" were apparently responsible for 22 "return cases." The return case-rate was 2·7 per cent. Nine of the "infecting cases" were "clean" cases whilst in hospital.

Antitoxic serum was administered as a routine to the more severe cases.

ENTERIC FEVER.

Of 32 cases admitted to the wards notified as Enteric Fever, 16 were found to be suffering from the disease. The following diseases were noted in the group of 16 cases, either wrongly diagnosed as Enteric Fever, or sent in for observation ; Bronchitis, Pneumonia, Tubercular Meningitis, Pyelitis, Ulcerative Colitis, Enteritis, Gonorrhœa, Measles, Fibrositis, and Sapræmia arising from Constipation.

The infecting organism was the Bacillus Typhosus in 9 patients, and the Bacillus Paratyphosus B. in 7 cases.

Two deaths occurred in the Typhoid group ; one patient admitted on the 13th day of illness died from Pneumonia and myocardial failure ; the other death occurred from toxæmia in a child of 3 years. This child had been ill for fourteen days before entering hospital and died on the third day after admission.

whereby the growth of staphylococci is inhibited, streptococci have been isolated from eczematous lesions. Attempts have been made to reproduce the diseased condition in the patient by means of intradermal inoculation of streptococci obtained from such lesions. So far positive results have been obtained in 5 cases. In them, lesions resembling the original condition have been obtained by such inoculation. It is difficult to assess the exact significance of these results, and so far sufficient data are not available to enable a definite statement to be made as to whether the organisms present are to be regarded as the primary etiological factors or merely as secondary invaders. Even if they only play the latter rôle it is obvious, from their undoubted pathogenicity as regards the skin, that they act as important factors in the prolongation and tendency to chronicity of the type of lesion from which they are isolated. Such chronic eczemas are not only troublesome to the patient but are responsible for much loss of time on account of the treatment required. When the frequent necessity for hospitalisation and the inability to continue employment are taken into consideration, the problem assumes an economical aspect of considerable importance.

As suitable cases which can be followed up are few, and the laboratory investigations lengthy, it has not been possible as yet to deal with a large number of cases.

Besredka's antivirus treatment of pyodermias has been carried out in six selected cases. The results with staphylococci antivirus in two cases of sycosis and one of furunculosis have been striking. Streptococcal antivirus exhibited in the type of eczema already mentioned has so far proved disappointing.

THE BACTERIOLOGICAL EXAMINATION OF THE WATER OF SWIMMING BATHS.

In view of the recent report of the Joint Committee on Bathing places of the American Public Health Association and the bacteriological standards suggested by them, it has been thought advisable to ascertain the number and types of organisms present in the water of swimming baths in Edinburgh. This investigation has just been started by Dr. A. M. M. Grierson, and has been carried out in the case of two of the Corporation baths, and the results obtained fall very short of the suggested American standards. For example, in a swimming bath where the water is changed weekly it was found that on the second day of use the number of organisms present in a cubic centimetre of water exceeded 500,000 and that *Bacillus coli* was also present in this quantity of water. That such a degree of contamination should occur after a single day's use of the bath can only be regarded as a potential danger to the health of the bathers. It should be noted that there is no filtration or disinfection of the water, but the baths when empty are swabbed with chloride of lime and "gospo," the purity of the water thus depending on the frequency with which it is changed. As greater use is made of the baths in summer and since contamination of the water will therefore be greater, this work will be continued during the summer months, when a detailed report will be submitted to the Medical Officer of Health.

RHEUMATIC INFECTION.

In 1927 Birkhaug in America introduced a skin test analogous to the Dick reaction for determining the sensitiveness of individuals to the toxin of a group of non-methaemoglobin-forming streptococci isolated from rheumatic fever. He reported that about 70 per cent. of persons with a definite history of rheumatic fever reacted positively to this test, whereas only approximately 20 per cent. of subjects without a history of rheumatic infection gave positive reactions. His results were confirmed later by an independent American worker. These reports appeared of such significance as to merit an extended trial of the test. This was undertaken by Drs. M'Lachlan and Begbie, through the courtesy of the Physicians of the Royal Hospital for Sick Children. Toxins were prepared from several of Birkhaug's strains and from other strains of streptococci of rheumatic origin in the National Collection of Type Cultures and tested in the manner

described by Birkhaug. The reaction was tested on cases of rheumatic fever during the acute stages of the illness, and on patients giving a history of long-standing infection, persons of similar age with no history of rheumatic manifestations being employed as controls.

The results are shown in the following Table :—

Strain from which Toxin was prepared.	History of Rheumatic Infection.		Chorea.		No history of Rheumatic Infection.	
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
RL	1 (very weak)	5	...	1	1 (very weak)	6
R5 (Toxin Specimen 1) ...	1	3	1	1	1	18
R5 (Toxin Specimen 2) ...	...	8	...	3	1 (very weak)	4
R5 (Toxin Specimen 3) ...	...	9	1	4	...	8
R6 ... ... ... ...	...	8	...	2	...	8
R7 ... ... ... ...	...	5	...	1	1 (very weak)	2
Total No. of Patients tested	2	38	2	12	4	46

In contrast to Birkhaug's figures, only a small number of individuals gave positive reactions and these were not of a marked degree. There has been little difference in the number of reactions among rheumatic and non-rheumatic patients, and the test has not proved of value in the recognition of doubtful cases of rheumatic fever or in attaching suspicion to any particular streptococcus as the cause of the disease.

Certain other bacteriological investigations of rheumatic infection have also been commenced. Attention has been restricted in the first place to the non-haemolytic streptococci in the throat and alimentary tract of persons with the disease. This work is in progress.

FURTHER INVESTIGATIONS IN THE DICK REACTION.

Scarlatina has been regarded by some investigators as a series of manifestations of hypersensitivity to *Streptococcus scarlatinæ*, and the Dick reaction would therefore be considered an allergic phenomenon. The production of an analogous reaction in animals would be strong confirmation of this view. Various observers have succeeded in rendering animals hypersensitive to haemolytic streptococci (Zinsser and Grinnell, 1925; Dochez and Sherman, 1925, and others) and in eliciting skin reactions by injection of streptococcal products. In 1927 Mackie and M'Lachlan rendered guinea-pigs sensitive to *Streptococcus scarlatinæ*, but found that the cutaneous reaction in these animals was not definitely comparable with the Dick reaction in the human subject, being of slight degree and not specific in nature. Since then Dochez and Stevens (1927) induced sensitiveness in rabbits to the toxin of haemolytic streptococci obtained from erysipelas, and reported that a transitory specific skin reaction, neutralisable by antitoxin, was observable. This state was followed by a condition in which the reactions were not specific and were not neutralisable with antitoxin. Dr. M'Lachlan has undertaken a fresh series of experiments in order to determine whether the same phenomenon occurs in the course of sensitisation of rabbits with toxic products of *Streptococcus scarlatinæ*. Investigations are not yet complete as only a small proportion of rabbits become sufficiently sensitised to yield marked skin reactions, but up to the present the phase reported by Dochez and Stevens (1927) in which the reaction is specific, neutralisable, and elicited only with unheated toxin, has not been observed.

MEDICAL STAFF.

The medical staff of the University Bacteriology Department who took part in the bacteriological services of the City during 1928 were :—

Dr. D. G. S. M'Lachlan, Lecturer in Bacteriology ; Dr. A. M. M. Grierson (now Assistant Medical Officer of Health); Dr. J. R. Whitaker; Dr. J. D. Allan Gray ; Dr. R. S. Begbie ; and Dr. H. J. Gibson.

The work was under the Direction of Professor T. J. Mackie.

MOTOR AMBULANCE SERVICE.

The Department is provided with three Motor Ambulance Cars for the removal of patients suffering from Infectious Disease. The cars are stationed at Colinton Mains Hospital, and the duties of the Chauffeurs are arranged to permit of urgent cases being removed at any hour of the day or night.

DISINFECTION.

The disinfection of houses which have been occupied by persons suffering from Infectious Disease is carried out by a special staff attached to the Department.

The bedding and other infected articles are conveyed by motor van to the Disinfection Station for treatment either under high pressure steam, or formaldehyde gas. The apartments are sprayed with a solution of formaldehyde.

Particulars as to the number of dwelling-houses disinfected during the last three years are given below :—

	1926.		1927.		1928.	
	Number.	Apartments.	Number.	Apartments.	Number.	Apartments.
Dwelling-houses, etc. :—						
After Tuberculous Disease . . .	1,038	1,340	1,079	1,337	1,079	1,337
" other . . .	3,373	6,137	4,317	6,441	3,692	5,411

During the year the articles enumerated in the following table have been removed for disinfection :—

Description.	No. of Articles.		Description.	No. of Articles.	
	After Tuberculous Disease.	After Other Diseases.		After Tuberculous Disease.	After Other Diseases.
Mattresses and Palliasses .	1,061	2,320	Body Clothes . . .	1,253	15,378
Blankets, Sheets, Quilts, etc.	3,860	8,431	Carpets and Rugs . . .	16	384
Beds, Pillows, Bolsters, etc.	2,498	3,608	Miscellaneous . . .	164	1,121
Curtains, Table Covers, Wraps, etc. . . .	52	85	Destroyed by request .	190	211
Table Napery, Toilet Covers, Towels, etc. . . .	137	283	Totals . . .	9,231	31,821

DISINFECTION STATION.

Facilities are provided at the Disinfection Station for dealing with persons suffering from Scabies, and for those who are in a verminous condition.

During the year 725 individuals attended for personal cleansing. Of these, 394 adults and 2 children were in a verminous condition, and 142 adults and 187 children were treated for Scabies.

RECEPTION HOUSE.

The Reception House, which is always kept in readiness to deal with any emergency, has fortunately not been required during the year.

INTERMENTS.

(In terms of Section 60, Public Health (Scotland) Act, 1897.)

Applications for assistance to meet the expenses of the burial of deceased relatives were made to the Department in 56 instances in the course of the year.

As a result of inquiries, 5 of the applications were withdrawn for various reasons. In another case the deceased person had been in receipt of an allowance from the Parish Council Authorities, who became responsible for the burial. In an additional two cases it was found that the relatives had sufficient means to meet the expenses of interment.

The remaining 48 funerals were provided by the Department at a cost of £119.

The following statement shows the expenditure in connection with interments since 1914:—

Year.	Number.	Total Cost of Interments and Removals.	Sums Recovered from Relatives.	Net Expenditure.
1914	101	£126 0 0	£5 1 3	£120 18 9
1915	71	123 13 0	10 5 11	118 7 1
1916	61	132 6 0	23 8 6	108 17 6
1917	61	141 6 0	16 6 8	124 19 4
1918	72	201 6 6	14 1 0	187 5 6
1919	63	177 12 0	33 8 9	144 3 3
1920	39	124 7 0	7 18 0	116 9 0
1921	54	190 2 6	26 19 2	163 3 4
1922	52	164 7 6	6 7 6	158 0 0
1923	51	168 18 6	9 10 0	159 8 6
1924	57	188 5 0	9 13 9	178 11 3
1925	45	151 0 0	11 8 0	139 12 0
1926	52	181 15 0	2 12 6	179 2 6
1927	54	177 15 0	22 8 0	155 7 0
1928	48	126 13 6	7 13 6	119 0 0

HOSPITAL EXPENDITURE.

The following Table shows the cost per occupied bed per annum in Colinton Mains Hospital during the last fifteen years. The particulars apply in each case to the financial year to 15th May, and are based on the gross ordinary expenditure.

Year to 15th May.	Daily Average Number of Occupied Beds.	* Cost of Food.	† Cost of Maintenance.	Total Cost of Occupied Bed per annum.
1914	469	£21 12 6	£44 0 8	£65 13 2
1915	596	21 0 0	34 9 9	55 9 9
1916	557	24 8 11	36 15 9	61 4 8
1917	497	31 16 0	43 1 10	74 17 10
1918	471	37 14 8	47 10 9	85 5 5
1919	521	40 1 0	55 2 2	95 3 2
1920	585	39 10 4	59 0 0	98 10 4
1921	543	44 5 10	79 4 10	123 10 8
1922	538	32 11 5	74 3 6	106 14 11
1923	472	26 19 4	72 15 10	99 15 2
1924	397	30 17 5	86 3 2	117 0 7
1925	519	25 10 1	70 0 2	95 10 3
1926	430	29 17 6	84 19 6	114 17 0
1927	371	31 4 10	97 16 0	129 0 10
1928	393	30 9 9	87 5 9	117 15 6

* Includes food for Staff.

† Includes salaries, heating, lighting, upkeep of buildings and grounds, taxes, etc.

The expenditure for provisions is detailed below :—

Butcher Meat	£2,323	8	5
Fish, Fowls, etc.	1,315	5	11
Butter, Cheese, and Bacon	1,342	1	3
Eggs	795	16	10
Groceries	1,572	9	6
* Milk	2,900	5	2
Bread	1,191	18	10
Oatmeal and Flour	152	19	6
Potatoes and Vegetables	319	15	8
Aerated Waters, etc.	68	2	0
	£11,982	3	1

* The total quantity was 34,997 gallons, an average of 95 gallons per day, equal to 1½ pints per head per day.

The total cost of stimulants for the year amounted to £34, 12s. 8d., as against £65, 5s. 7d. in 1927, and was expended as follows :—

Diphtheria Patients	£2	17	0
Scarlet Fever Patients	9	10	10
Whooping Cough Patients	1	18	2
Measles Patients	4	2	1
Enteric ”	6	18	2
Phtisis ”	3	16	8
Erysipelas ”	3	18	3
Other Diseases	1	11	6
	£34	12	8

The cost of serum during the year amounted to £1,020, 7s. 9d.

PILTON HOSPITAL AND ROYAL VICTORIA HOSPITAL.

Cost per Occupied Bed—Year to 15th May 1928.

	Daily Average Number of Occupied Beds.	* Cost of Food.	† Cost of Maintenance.	Total Cost of Occupied Bed per annum.
Pilton Hospital . . .	118	£32 5 3	£66 1 7	£98 6 10
Royal Victoria Hospital . .	71	32 14 2	67 11 8	100 5 10

* Includes food for Staff.

† Includes salaries, heating, lighting, upkeep of buildings and grounds, taxes, etc.

PUBLIC HEALTH EXPENDITURE.

1908-1928.

Year.	Gross Expenditure.	Revenue.	Net Expenditure.
1907-8	£34,295	£601	£33,694
1908-9	34,218	690	33,528
1909-10	35,159	699	34,459
1910-11	34,869	718	34,150
1911-12	35,072	780	34,291
1912-13 T.B. Scheme begun.	37,618	2,690	34,927
1913-14	46,094	14,548	31,546
1914-15	56,768	18,716	38,051
1915-16	56,827	12,997	43,829
1916-17 C.W. Scheme begun.	58,323	23,216	35,107
1917-18	75,198	30,552	44,645
1918-19 V.D. Scheme begun.	99,563	43,029	56,533
1919-20	130,877	49,138	81,738
1920-21 Amalgamation with Leith.	210,875	89,098	121,777
1921-22	184,315	68,450	115,865
1922-23	146,395	67,477	78,917
1923-24	149,873	47,554	102,319
1924-25	156,155	48,949	107,206
1925-26	156,919	54,185	102,734
1926-27	157,895	56,439	101,455
1927-28	* 172,763	56,999	* 115,764

* Includes £15,215 for Interest and Debt Charges included for the first time.

CITY OF EDINBURGH CHILD WELFARE SCHEME

CHIEF ADMINISTRATIVE OFFICE — PUBLIC HEALTH CHAMBERS.

CHIEF CLINICAL OFFICER. • MEDICAL ASSISTANTS. • HEALTH VISITORS. • OFFICE SUPERVISOR.

CHIEF CONSULTATIVE CENTRE FOR ANTE-NATAL AND MATERNITY CASES
CHIEF CONSULTATIVE CENTRE FOR SICK CHILDREN
REGISTRATION and SUPERVISION of MIDWIVES.

ANTE-NATAL SUPERVISION.

CLINICS.

AT HOME:
1. FAMILY DOCTOR.
2. REGISTERED MIDWIFE (Must call in Doctor in emergency: Fee paid by City).
3. PUPIL NURSES.
4. MEDICAL STUDENTS.

HOME VISITS.
CONFINEMENT.

IN MATERNITY HOSPITALS OR NURSING HOMES.

1. PRIVATE WARD
2. PUBLIC WARD

NOTIFICATION OF BIRTH NOTIFICATION VISIT (at 10th day)

HOME (Follow-up Visits)

1. FOR STILL BIRTHS.
2. FOR OPHTHALMIA NEONATORUM (On Notification)
3. FOR GENERAL SUPERVISION. &c

(a) — by Official Health Visitor.
(b) — by Voluntary Health Worker.

CLINICS.

1. ANTE-NATAL.
2. POST-NATAL.
3. PREVENTIVE or DIETETIC.
4. CURATIVE.
5. ULTRA-VIOLET RAY THERAPY
6. PROTECTIVE INOCULATIONS & VACCINATIONS.

In all clinics at (b) — (a) Doctor. (b) Official Health Visitor. (c) Voluntary Health Worker.

SPECIAL MEDICAL SUPERVISION (see also Residential)	RESIDENTIAL HOMES and INSTITUTIONS.	DAY CARE of CHILDREN.	ASSISTANCE with MEDICINES. MILK. DINNERS. PLAY CENTRES.	EDUCATIONAL FACILITIES. MOTHERCRAFT CLASSES. HEALTH VISITOR TRAINEES. DOMESTIC NURSES. CLOTHING. COTS. SPECTACLES. FIRE GUARDS.	CLOSE CO-OPERATION WITH
ROYAL MATERNITY HOSPITAL GENERAL DISPENSARIES	HOMES for EXPECTANT & NURSING MOTHERS. HOLIDAY HOMES for MOTHERS & TODDLERS	DAY NURSERIES.	MEDICINES. MILK.	MOTHERCRAFT CLASSES. HEALTH VISITOR TRAINEES.	COUNCIL of SOCIAL SERVICE. QUEEN'S JUBILEE NURSING ASSOCIATION.
CITY FEVER HOSPITAL, TUBERCULOSIS DEPARTMENT— (a) T.B. DISPENSARY (External) (b) ROYAL VICTORIA HOSPITAL (c) DILTON HOSPITAL	HOMES for BABIES. HOLIDAY HOMES for CHILDREN HOMES for MALNUTRITION BABIES.	PLAY CENTRES.	DINNERS.	DOMESTIC NURSES.	SOCIETY for PREVENTION of CRUELTY to CHILDREN
CITY VENERAL DISEASES DEPARTMENT— (a) SPENSARIES (b) ROYAL INFIRMARY (c) DILTON HOSPITAL (d) BRUNSFORD HOSPITAL	NURSERY SCHOOL for DEAF & DUMB. ROYAL BLIND ASYLUM.	CHILD GARDENS.	CLOTHING. COTS.	MEDICAL STUDENTS D.P.H. CANDIDATES. POST GRADUATES.	CRIPPLE AID SOCIETY. PARISH COUNCIL. MENTAL AFTER-CARE COMMITTEE.
DENTAL HOSPITALS					SEWING WORK PARTIES. MOTHER and INFANT CARE COMMITTEE— (ADOPTION of BABIES)

At the age of 5 years the supervision of the child comes under the School Medical Service.

If the child leaves the City before school age the name is passed on to the M.O.H. for the District to which the child has been removed.

MATERNITY AND CHILD WELFARE.

The following Report in connection with Child Welfare has been prepared by Dr. T. Y. Finlay, who is in charge of this branch of the Department :—

I have the honour to submit a report of the work under the Maternity and Child Welfare Scheme during the year 1928.

The Scheme, which was officially started in 1917, deals with the supervision of the child throughout the ante-natal period and after birth up to the age of five years ; and therefore also necessarily includes the care of the health of the expectant and nursing mother. On the preceding page will be seen in chart form the varicus activities which are involved in attempting to carry out this supervision.

MATERNITY SERVICE.

Ante-natal Supervision.—A modified form of notification of pregnancy is secured through the attendance of the expectant mother at one or other of the seven Ante-natal Centres, where Clinics are held, as well as through the close intimacy which exists between the Health Visitor and the families who reside in her district, and with whom she keeps in constant touch. The percentage of births occurring in the City which have received ante-natal supervision at these Centres has steadily increased from 20 per cent in 1921 to 49 per cent in the present year. Unfortunately we have no means of assessing in figures the percentage of women who receive similar supervision from their own doctors. Were this known, there is no doubt that it would materially swell the percentage noted above.

More and more these Ante-natal Clinics are being appreciated by those attending them ; and that they are really effective I am convinced from the fact that when the baby is first brought to the Welfare Clinic and information is asked regarding any ante-natal supervision, the invariable answer is, where attendance is admitted, that it has been regular every month at first, then every three weeks, two weeks, and lastly every week or ten days towards the close of the pregnancy.

The figures given in connection with Maternal Mortality also strikingly show the benefit of ante-natal supervision, and the Table on page 59 is convincing proof that this aspect of the Department's activities should be greatly extended if we are to reduce still further our infant mortality rate. More Ante-natal Clinics in outlying parts of the City are urgently required. These should be in close association with a Maternity Hospital, and to be really effective should be in the charge of obstetric specialists or expert doctors who are in daily contact with midwifery practice.

At present women attending Ante-natal Clinics are visited by the Health Visitor of the area in which they live. The fact that this Health Visitor is seldom in direct touch with the Ante-natal Clinic or with its Staff detracts greatly from the real usefulness of her visits. Much more benefit would result if the nurse attending the Ante-natal Clinic—who should be closely associated with the Hospital—were also the visitor in the homes of the expectant mothers. Such an official would have to act in the capacity of Nurse-Almoner, and would require to be specially selected for the work, not only by reason of her knowledge of ante-natal hygiene, but also by reason of her sympathetic understanding of expectant motherhood. The Venereal Diseases Department in this aspect of its work might profitably be associated with the Maternity and Child Welfare Department in any such development.

In the following Table particulars are given regarding the number of Ante-natal Clinics held during the year, together with the attendances at the respective Centres.

CENTRE.	Number of Clinics held.	ATTENDANCES.		
		New Cases	Old Cases.	Total.
Cowgate	100	477	1,075	1,552
Torphichen Street	47	80	156	236
High Street	19	57	81	138
Marshall Street	45	40	172	212
Royal Maternity Hospital	364	1,773	6,446	8,219
Leith	48	238	220	458
Elsie Inglis Memorial Hospital	159	971	3,030	4,001
Totals	782	3,636	11,180	14,816
Figures for 1927	860	3,688	11,729	15,417

Post-natal Supervision.—Supervision during the post-natal period is very essential. This fact is becoming more and more appreciated, and as a result, post-natal Clinics are being instituted. Such Clinics are held at the Royal Maternity and at the Elsie Inglis Memorial Hospital. They are of value because there one attempts to repair where necessary, any damaged tissues which may have resulted from a recent confinement—a truly preventive measure keeping in mind the possibilities of future pregnancies, and even where pregnancy does not recur they are equally of value in securing the future health of the mother. This aspect of maternity work requires to be more fully developed, because by systematically paying attention to all cases, and by correcting all defects resulting from childbirth, we should be able, according to competent authorities, to reduce by half the bed accommodation required in gynaecological wards. Another benefit in the post-natal period would be a more prolonged convalescence than the usual ten-day period. Here something in the nature of home helps would meet the case, and the mother if possible relieved for the time being of the other children.

Midwives Act.—Report for the year in terms of the Midwives (Scotland) Act, 1915 :—

1. The number of certified Midwives who intimated to the Local Authority their intention to practice in the district	13
2. (a) Total number of Births	7985
(b) Total number of Deaths of New-born Children (within 10 days)	218
(c) Actual number of Births attended by Midwives	455
(d) Deaths of New-born Children occurring in the practice of Midwives	5
(e) Number of Births not attended by a Doctor or Midwife	0
3. (a) Total number of cases of Ophthalmia Neonatorum	29
(b) Actual number of cases of Ophthalmia Neonatorum occurring in the practice of Midwives	1
(c) Actual number of cases occurring where confinement not attended by a Doctor or Midwife	0
4. (a) Total number of cases of Puerperal Sepsis	77
(b) Total number of Deaths from Puerperal Sepsis	*27
(c) Actual number of cases of Sepsis in practice of Midwives	1
(d) Actual number of Deaths from Puerperal Sepsis in practice of Midwives	1
(e) Actual number of cases occurring where confinement not attended by a Doctor or Midwife	0
5. (a) Total number of Still-births	357
(b) Actual number of cases of Still-births occurring in the practice of Midwives	15
6. Cases of Emergency	37

* Includes 8 deaths transferred to other districts.

The total number of cases of emergency in which medical practitioners have been called in, under Section 22 of the Act, during 1928 was 37 as noted in the following

classified list. It was found necessary in five cases to have the patient removed to the Royal Maternity Hospital for further treatment.

Prolonged Labour requiring Forceps Delivery	15	Retained Plaeenta	.	.	.	.	.	1
Breech Presentation	.	5	Ruptured Perinæum	.	.	.	.	2
Foot Presentation	.	1	Illness of Child	.	.	.	.	3
Prolapsed Cord	.	2	Premature Birth	.	.	.	.	1
Ante-Partum Hæmorrhage	.	1	For Certifieation of Still-Birth	.	.	.	.	4
Abortion	.	1						—
Uterine Inertia	.	0	Total	.	.	.	.	37
Illness of Mother	.	1						

Maternity Homes Act (1928). This Act came into force on 1st January, from which date all Homes and Institutions admitting Maternity Cases have to be registered under the Local Authority. During the year 29 such places applied for certificates of registration, all of which were granted after a visit of inspection. Of these, 2 hospitals and 6 homes are entirely devoted to the nursing of midwifery cases.

Maternal Deaths.—The total number of maternal deaths which occurred in the City during the year was 89, showing an increase of 11 compared with the previous year. Of the 89 deaths 33 were of women who had come to the City for their confinement, and their deaths have been transferred to the district of permanent residence. Two deaths occurring outside the City were transferred to Edinburgh as the district of permanent residence, giving a total of 58 deaths of Edinburgh citizens, to which the following details refer.

Ages at Death—

Under 20 years	.	.	1 or	1·7 per eent. of the total.
20 years and under 25 years	.	.	7 „	12·4 „ „ „
25 years and under 30 years	.	.	22 „	37·9 „ „ „
30 years and under 35 years	.	.	11 „	18·9 „ „ „
35 years and under 40 years	.	.	14 „	24·0 „ „ „
40 years and under 45 years	.	.	2 „	3·4 „ „ „
45 years and under 50 years	.	.	1 „	1·7 „ „ „
Total	<u>58</u>		<u>100·0</u>	

Causes of Death—

Septicæmia.		Embolism.	
Puerperal Sepsis	.	.	Number of Deaths
General Peritonitis	.	.	.
<u>— 20</u>		<u>— 4</u>	
Toxæmia.		Unclassified Various Causes.	
Albuminuria	.	.	Shoek
Eclampsia	.	.	Edema of Lungs
Hyperemesis	.	.	Acute Yellow Atrophy
Delayed Chloroform Poisoning	.	.	Puerperal Mania
<u>— 10</u>		<u>— 1</u>	
Hæmorrhage.		Splenie Abseess	
Antepartum Hæmorrhage	.	.	Purpura
Postpartum Hæmorrhage	.	.	
Placenta Prævia	.	.	
<u>— 7</u>		<u>— 7</u>	
Conditions complicating Labour.		Total	
Acute Nephritis	.	.	<u>58</u>
Pneumonia	.	.	
Organic Heart Disease	.	.	
Rheumatic Fever	.	.	
Status Epileptieus	.	.	
<u>— 10</u>			

MATERNAL DEATHS, 1928.	Septicæmia.	Toxæmia.	Hæmorrhage.	Embolism.	Illnesses complicating Labour.	Unclassified Causes. Various.	Total.
Cases attended by—							
Private Doctors and died at home	1	1	1	3	2	0	8
Private Doctors and removed to Institutions	9	3	0	0	0	1	13
Midwives and removed to Institutions	1	0	0	0	1	0	2
Dispensaries and Pupil Nurses and removed to Institutions	2	3	2	0	2	1	10
Dispensaries and Pupil Nurses at home	0	0	0	0	0	0	0
In Institutions	7	3	4	1	5	5	25
	20	10	7	4	10	7	58

MATERNAL DEATHS, 1924-28.	1924.	1925.	1926.	1927.	1928.
Cases attended by—					
Private Doctors and died in their own homes	Per cent. 31	Per cent. 21	Per cent. 26	Per cent. 11	Per cent. 14
Private Doctors and removed to Institutions	15	16	10	25	23
Midwives and removed to Institutions	6	5	12	0	3
Dispensaries and Pupil Nurses and removed to Institutions	2	9	12	9	17
Dispensaries and Pupil Nurses at home	15	2	2	4	0
Attended in Institutions	31	47	38	51	43
	100	100	100	100	100

In the above Table it will be noticed that, from the year 1927, the percentage of patients attended by private doctors and who died in their own homes is more comparable to that of the previous years in the case of those removed to institutions, and vice versa. It is possible that the general stoppage of work which took place in 1926 may have some bearing upon this curious sudden transposition of figures.

The following Table gives an analysis of the maternal deaths for the five year period 1924-1928.

During this period 13 women died undelivered. The actual number of maternal deaths was 248, giving a Maternal Death Rate of 6.3 per 1000 live births. Of these deaths, 64 were known to have had ante-natal supervision and 184 are stated to have had none. The maternal death-rate among the ante-natally supervised mothers was therefore 4 per 1000 notifications of pregnancy, and the rate of fatalities among the non-supervised was 8 per 1000 confinements. Of the total deaths only 25.8 per cent. received ante-natal supervision, while 74.2 per cent. received none. In the case of deaths from Septicæmia, which form 33.9 per cent. of the total, it is worthy of note that there is practically no difference in the number (41 and 42) of cases confined in institutions and in their own homes, though the deaths from this cause are much greater in the former (75) than in the latter (9). Another point of note is the almost similar number of deaths irrespective of whether the confinements were noted as "normal" or "difficult."

MATERIAL MORTALITY FOR THE 5 YEARS, 1924-1928.	Per cent. 33.9	Number of Deaths.	Number of Primiparae.	Number of Multiparae.	Ante-natal Supervision noted.	Ante-natal Supervision not noted.	Congenital noted as "Normal".	Congenital noted as "Difficult".	Congenital in Institutions.	* Death in Institutions.	Death at Home.	Infant Born Alive	Infant Stillborn.	Infant Illegitimate.	B. In a Maternity Institution.	C. In a General Hospital.			
							Septicaemia	Toxæmia	Hæmorrhage	Embolism	Illnesses complicating Labour	Unclassified.	Total Deaths	Per cent.					
14.9	31	84	31	33	22	62	43	40	41	42	75	9	54	30	72	12	33	34	8
14.9	20	37	20	17	16	21	18	14	22	10	33	4	15	17	34	3	0	30	3
8.4	6	37	6	31	6	31	7	28	24	11	30	7	15	20	33	4	1	24	5
16.9	4	21	4	17	4	17	18	2	3	3	17	6	15	18	20	1	0	2	3
10.8	11	42	18	24	10	32	24	16	22	18	34	8	24	16	34	8	5	22	7
																	1	17	3
																	40	129	29
																	16.1	52.0	11.7

BIRTHS.

The number of births registered in the City during the year was 7,985. Of these, 4,085 were males and 3,900 were females, being in the proportion of 105 boys to every 100 girls. The number of illegitimate births was 663, or 8·3 per cent., as compared with 733 or 9·1 per cent. for the previous year.

Quarter.	Number of Births Registered.	SEX.		Legitimate.	Illegitimate.	Percentage of Illegitimate to Total Births.
		Males.	Females.			
1st .	1,988	1,003	985	1,828	160	8·1
2nd .	2,090	1,088	1,002	1,910	180	8·6
3rd .	1,949	973	976	1,783	166	8·5
4th .	1,958	1,021	937	1,801	157	8·0
Totals	7,985	4,085	3,900	7,322	663	8·3

The following Table gives particulars regarding the births after the necessary corrections have been made for transfers :—

Quarter.	Total Births.	Legitimate.	Illegitimate.	Percentage of Illegitimate to Total Births.
1st .	1,863	1,747	116	6·2
2nd .	1,936	1,816	120	6·2
3rd .	1,813	1,687	126	6·9
4th .	1,808	1,694	114	6·3
Totals	7,420	6,944	476	6·4

Illegitimate Births.—The percentage of illegitimate births to the total corrected births for the year was 6·4, a figure which has scarcely varied since 1921. Previous to this the percentage had been gradually getting less since 1918, when it stood at 11·7.

Birth-rate.—The birth-rate based on the corrected number of births is equivalent to 17·3 per 1,000 of the estimated population. Compared with 17·9, the rate for 1927.

In the following Table the births are allocated according to the three areas of the extended City. The births belonging to military quarters, and those occurring in institutions, for which no permanent domicile could be ascertained, are shown under separate headings. Fuller details regarding the distribution of the births in the various Wards of the City will be found in the Table on page 9.

Area.		Births.	Rate per 1000 of Population.
Edinburgh	.	5,211	16·8
Leith	.	1,631	20·3
Suburban	.	399	14·1
Institutions	.	137	....
Military Quarters	.	42	....
Whole City	.	7,420	17·3

Below are given the corrected birth-rates for the eight large towns in Scotland, and for the whole of Scotland for 1928.

TOWN.	Per 1000 of Population.	TOWN.	Per 1000 of Population.
Glasgow	22·3	Paisley	20·2
Edinburgh	17·3	Greenock	24·1
Dundee	20·3	Motherwell and Wishaw	21·3
Aberdeen	20·8	Clydebank	22·6

Notification of Births.—The number of births notified during the year was 8,231. Of this total, 7,715 were stated to be born at term, and 516 to be premature; 357 were still-born. On receipt, these notifications are carefully gone over and classed into two groups, viz., those which by virtue of the street or locality in which they have occurred obviously have facilities for guidance and supervision by the private doctor and family nurse, and those which are likely to desire or require the services of the Public Health Visitor. The former are discarded and the latter form the basis upon which the home visitation is carried on.

As already noted the **still-births** intimated during the year numbered 357, a figure which compares favourably with 376, the number notified in 1927.

An Analysis of the 8,231 births notified during the year shows the following results :—

I. Births attended by Private Doctors	2250
II. Births attended by Private Doctors with a District Nurse—	
(1) Queen's Nurses	1120
(2) Buccleuch Street Nurses	205
	1325
III. Births attended by Registered Midwives	455
IV. Births attended by Students and Pupil Nurses in their own homes—	
(1) Royal Maternity Hospital	915
(2) Elsie Inglis Memorial Hospital	237
(3) Cowgate Dispensary	331
(4) Deaconess Hospital	94
(5) Edinburgh Lying-in Institution	175
(6) Marshall Street Dispensary	6
	1758
V. Births attended in Maternity Hospitals and Training Centres—	
(1) Royal Maternity Hospital	1709
(2) Elsie Inglis Memorial Hospital	652
(3) Deaconess Hospital	25
(4) Edinburgh Lying-in Institution	57
	2443
	8231

The following Table gives an analysis of comparable figures in percentages of the births for the past four years :—

Births attended by—	1925.	1926.	1927.	1928.
	Per cent.	Per cent.	Per cent.	Per cent.
Private Doctors	48	41	43	43
Private Doctors with a District Nurse }				
.	6	5	6	5
Registered Midwives	23	24	22	22
Students and Pupil Nurses in Patient's Home	23	30	29	30
In Maternity Hospitals and Training Centres	100	100	100	100

Ophthalmia Neonatorum.—During the year 29 cases of this disease were notified. The interval in days between the birth of the child and the onset of the disease was as follows :—

Days .	1	2	3	4	5	6	7	8	9	10	Over 10 days and under 3 months.	No Par-ticulars.	Total.
Cases .	1	1	2	1	1	1	3	1	1	5	7	5	29

The Confinement was attended by :—

A Doctor and Nurse	10 cases.
Nurses from Institutions	7 cases.
By Dispensaries	5 cases.
In Institutions	7 cases.—Total, 29 cases.

Treatment was given :—

At Home	17 cases.
At Home and Welfare Centres	4 cases.
In Hospital	8 cases.—Total, 29 cases.

Hospital treatment was given :—

In Pilton Hospital	5 cases.
In Leith General Hospital	1 case.
Elsie Inglis Memorial Hospital	2 cases.—Total, 8 cases.

A Queen's Jubilee Nurse or a Nurse from the Royal Maternity Hospital attended to those children who were treated in their homes.

In 28 cases the eyes were cleared ; and in the remaining case the child died.

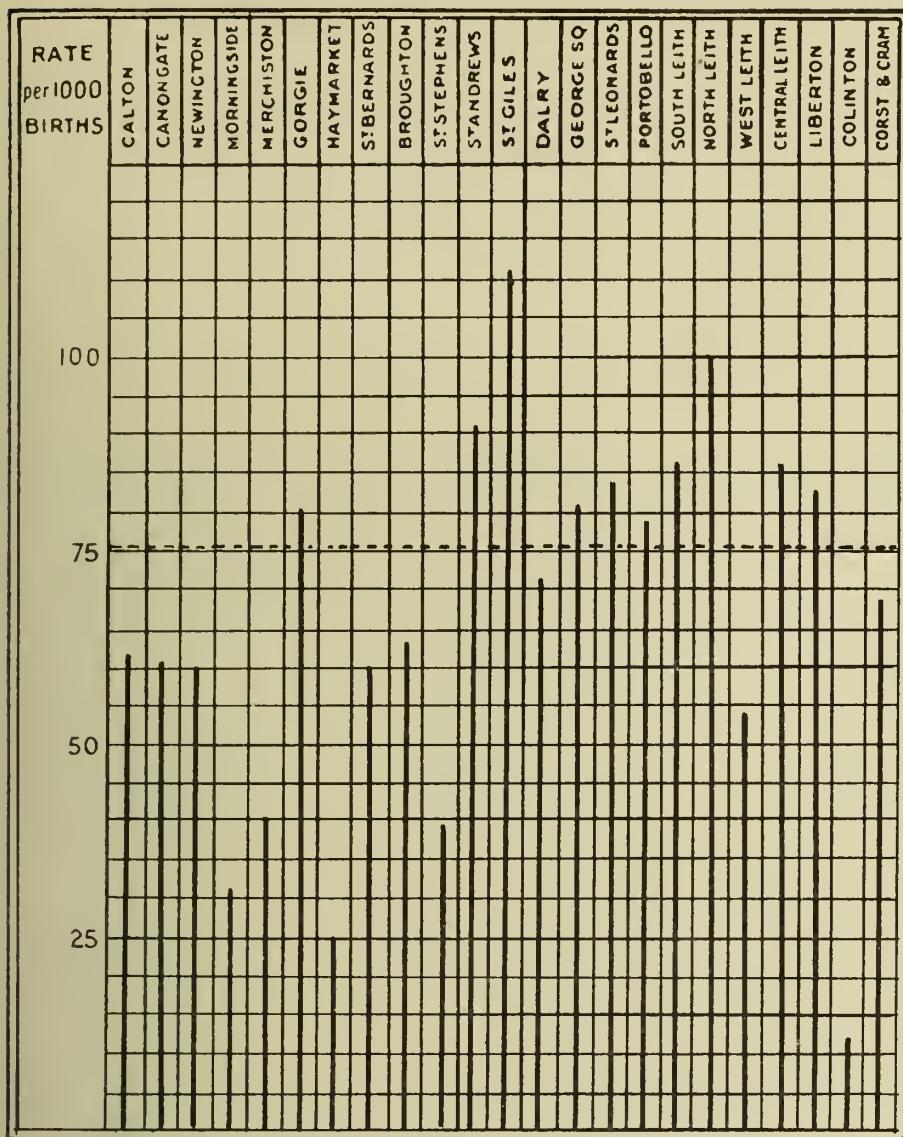
Infant Mortality.—The deaths of infants under one year registered during 1928 numbered 553, which is 53 less than those recorded for the previous year. The mortality rate was equivalent to 75 deaths per 1,000 births.

The following figures show the distribution of the deaths under one year in the different districts of the City, together with the mortality rate for the respective areas :—

Area.	Deaths under 1 year.	Deaths per 1000 Births.
Edinburgh	367	70
Leith	138	85
Suburban	25	63
Institutions	20	...
Military Quarters	3	...
Whole City	553	75
Figures for 1927	606	80

In the Table on page 9 the infantile mortality is tabulated according to Wards, while the following diagram shows the mortality experienced in each Ward as compared with the rate for the City.

INFANTILE MORTALITY.—DEATHS PER 1000 BIRTHS.



----- Infantile Mortality Rate for City

The Table given below shows the Infantile Mortality rates for the City since 1880:—

Year.	Infantile Mortality.	Year.	Infantile Mortality.	Year.	Infantile Mortality.	
1880	143	1896	122	1912	110	
1881	128	1897	164	1913	101	
1882	121	1898	141	Sanitary Dept. formed, 1898	1914	110
1883	128	1899	147	1915	132	
1884	135	1900	132	1916	100	
1885	120	1901	143	1917	123	
1886	136	1902	119	1918	94	
1887	137	1903	117	1919	117	
1888	128	1904	125	1920	89	
1889	133	1905	124	1921	96	
1890	144	1906	112	1922	91	
1891	138	1907	121	1923	82	
1892	135	1908	114	Voluntary Visiting in Homes	1924	89
1893	148	1909	113	1925	96	
1894	125	1910	103	1926	80	
1895	152	1911	115	1927	80	
				1928	75	
					Four Medical Assistants Appointed, May 1928	

Deaths of Illegitimate Children.—Of the 553 deaths under one which occurred during the year, 500 infants were legitimate and 53 were illegitimate. The total number of deaths under five years of age was 844. Of these, 770 were legitimate and 74 were illegitimate. Of the legitimate children whose deaths were recorded during the twelve months, 500 or 65 per cent. were under one year, while 270 or 35 per cent. were between one and five years. In regard to the 74 deaths of illegitimate children, 53 or 71·7 per cent. died before completing their first year, while 21 or 28·3 per cent. were between one and five years of age.

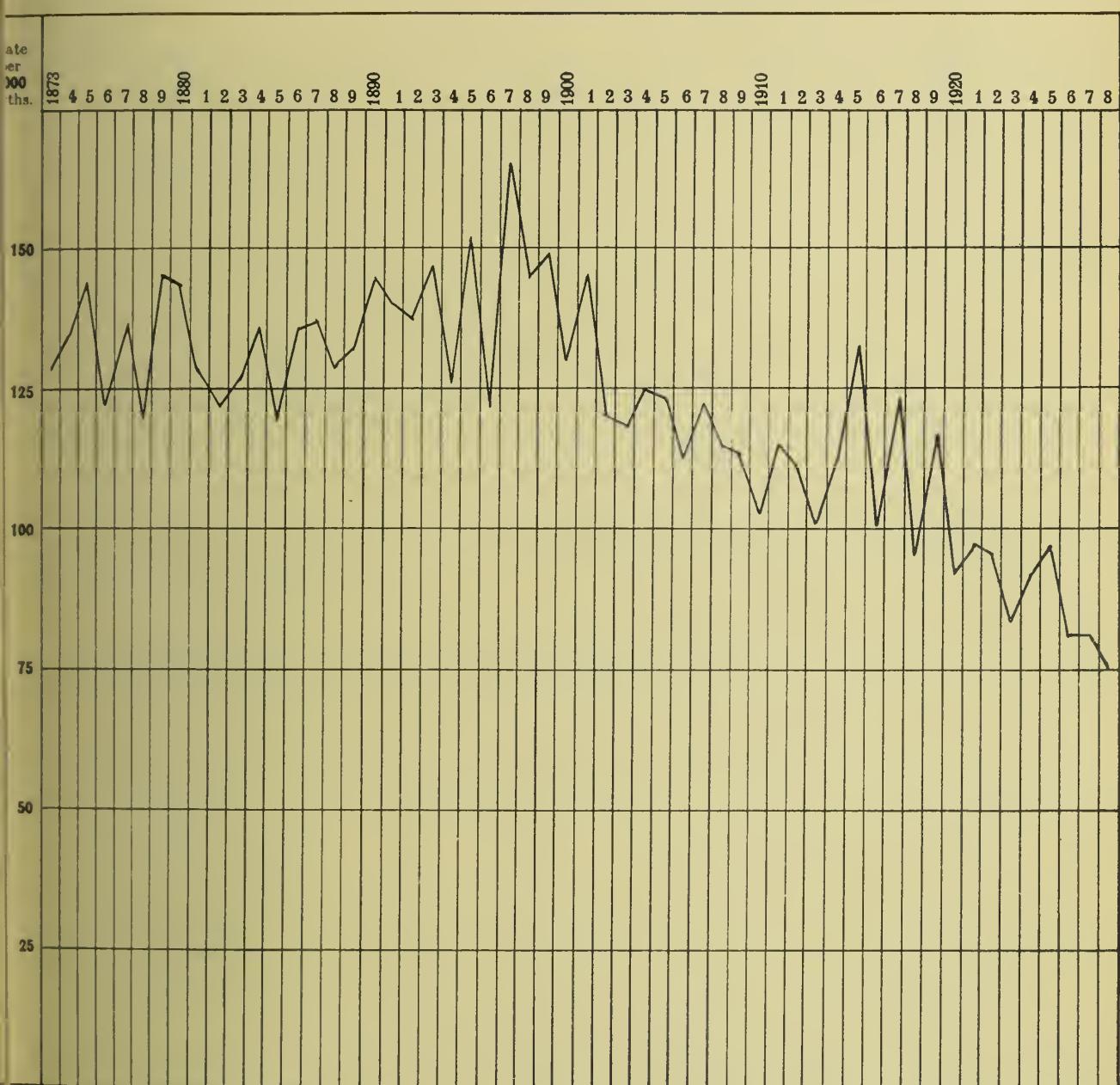
Causes of Death among Children under Five Years during 1928.

CAUSE OF DEATH.	Under 1 Week.				Total under 4 Weeks.	Total under 12 Months.				Total under 1-5 Years.					
	1, and under 2 Weeks.	2, and under 3 Weeks.	3, and under 4 Weeks.	4 Weeks and under 3 Months.		3, and under 6 Months.	6, and under 9 Months.	9, and under 12 Months.	12 Months and under 2 Years.	2, and under 3 Years.	3, and under 4 Years.	4, and under 5 Years.	Total 1-5 Years.		
Smallpox	1	1	1	1	1	2	2	2	1	1	1	1	1		
Chickenpox	1	1	1	1	1	2	2	2	1	1	1	1	1		
Measles	1	1	1	1	1	2	2	2	1	1	1	1	1		
Scarlet Fever	1	1	1	1	1	2	2	2	1	1	1	1	1		
Whooping Cough	1	1	1	1	1	2	2	2	1	1	1	1	1		
Diphtheria and Croup	1	1	1	1	1	2	2	2	1	1	1	1	1		
Erysipelas	1	1	1	1	1	2	2	2	1	1	1	1	1		
Tuberculous Meningitis	1	1	1	1	1	2	2	2	1	1	1	1	1		
Abdominal Tuberculosis	1	1	1	1	1	2	2	2	1	1	1	1	1		
Other Tuberculous Disease	1	1	1	1	1	2	2	2	1	1	1	1	1		
Meningitis (not Tuberculous)	1	1	1	1	1	2	2	2	1	1	1	1	1		
Hydrocephalus	1	1	1	1	1	2	2	2	1	1	1	1	1		
Convulsions	1	1	1	1	1	2	2	2	1	1	1	1	1		
Pneumonia (all forms)	1	1	1	1	1	2	2	2	1	1	1	1	1		
Bronchitis	1	1	1	1	1	2	2	2	1	1	1	1	1		
Laryngitis	1	1	1	1	1	2	2	2	1	1	1	1	1		
Diarrhoea and Enteritis	1	1	1	1	1	2	2	2	1	1	1	1	1		
Other Digestive Diseases	1	1	1	1	1	2	2	2	1	1	1	1	1		
Congenital Malformations	1	1	1	1	1	2	2	2	1	1	1	1	1		
Congenital Heart	1	1	1	1	1	2	2	2	1	1	1	1	1		
Premature Birth	1	1	1	1	1	2	2	2	1	1	1	1	1		
Atrophy, Debility, and Marasmus	1	1	1	1	1	2	2	2	1	1	1	1	1		
Atelectasis	1	1	1	1	1	2	2	2	1	1	1	1	1		
Injury at Birth	1	1	1	1	1	2	2	2	1	1	1	1	1		
Suffocation, overlaying	1	1	1	1	1	2	2	2	1	1	1	1	1		
Syphilis	1	1	1	1	1	2	2	2	1	1	1	1	1		
Rickets	1	1	1	1	1	2	2	2	1	1	1	1	1		
All other Causes	1	1	1	1	1	2	2	2	1	1	1	1	1		
Totals	154	25	29	18	226	71	108	77	71	553	168	60	37	26	291

Causes of Death among Illegitimate Children under Five Years during 1928.

CAUSE OF DEATH.	Under 1 Week.				Total under 4 Weeks.	Total under 12 Months.				Total under 1-5 Years.			
	1, and under 2 Weeks.	2, and under 3 Weeks.	3, and under 4 Weeks.	4 Weeks and under 3 Months.		3, and under 6 Months.	6, and under 9 Months.	9, and under 12 Months.	12 Months and under 2 Years.	2, and under 3 Years.	3, and under 4 Years.	4, and under 5 Years.	Total 1-5 Years.
Smallpox	1	1	1	1	1	2	2	2	1	1	1	1	1
Chickenpox	1	1	1	1	1	2	2	2	1	1	1	1	1
Measles	1	1	1	1	1	2	2	2	1	1	1	1	1
Scarlet Fever	1	1	1	1	1	2	2	2	1	1	1	1	1
Whooping Cough	1	1	1	1	1	2	2	2	1	1	1	1	1
Diphtheria and Croup	1	1	1	1	1	2	2	2	1	1	1	1	1
Erysipelas	1	1	1	1	1	2	2	2	1	1	1	1	1
Tuberculous Meningitis	1	1	1	1	1	2	2	2	1	1	1	1	1
Abdominal Tuberculosis	1	1	1	1	1	2	2	2	1	1	1	1	1
Other Tuberculous Disease	1	1	1	1	1	2	2	2	1	1	1	1	1
Meningitis (not Tuberculous)	1	1	1	1	1	2	2	2	1	1	1	1	1
Hydrocephalus	1	1	1	1	1	2	2	2	1	1	1	1	1
Convulsions	1	1	1	1	1	2	2	2	1	1	1	1	1
Pneumonia (all forms)	1	1	1	1	1	2	2	2	1	1	1	1	1
Bronchitis	1	1	1	1	1	2	2	2	1	1	1	1	1
Laryngitis	1	1	1	1	1	2	2	2	1	1	1	1	1
Diarrhoea and Enteritis	1	1	1	1	1	2	2	2	1	1	1	1	1
Other Digestive Diseases	1	1	1	1	1	2	2	2	1	1	1	1	1
Congenital Malformations	1	1	1	1	1	2	2	2	1	1	1	1	1
Congenital Heart	1	1	1	1	1	2	2	2	1	1	1	1	1
Premature Birth	1	1	1	1	1	2	2	2	1	1	1	1	1
Atrophy, Debility, and Marasmus	1	1	1	1	1	2	2	2	1	1	1	1	1
Atelectasis	1	1	1	1	1	2	2	2	1	1	1	1	1
Injury at Birth	1	1	1	1	1	2	2	2	1	1	1	1	1
Suffocation, overlaying	1	1	1	1	1	2	2	2	1	1	1	1	1
Syphilis	1	1	1	1	1	2	2	2	1	1	1	1	1
Rickets	1	1	1	1	1	2	2	2	1	1	1	1	1
All other Causes	1	1	1	1	1	2	2	2	1	1	1	1	1
Totals	7	4	2	2	15	11	10	11	6	53	13	7	1

EDINBURGH
INFANTILE MORTALITY
1873-1928.



In the accompanying Table the deaths of illegitimate children are arranged to show the Ward in which their domicile was situated.

Calton	3	George Square	1
Canongate	2	St. Leonard's	8
Newington	3	Portobello	4
Morningside	0	South Leith	2
Merchiston	2	North Leith	4
Gorgie	2	West Leith	1
Haymarket	0	Central Leith	2
St. Bernard's	1	Liberton	3
Broughton	3	Colinton	0
St. Stephen's	2	Corstorphine and Cramond	1
St. Andrew's	4	Institutions (not allocated in Wards)	13
St. Giles	12		
Dalry	1	Total	74

The number of illegitimate children, up to five years, who died in Institutions is shown in the following Table.

City Hospital	10
Sick Children's Hospital	18
Deaconess Hospital	1
Royal Maternity Hospital	3
Elsie Inglis Memorial Hospital	1
Craiglockhart Poorhouse	14
Leith General Hospital	4
East Pilton Hospital	2
Total	53

Great care is exercised in the supervision of the **illegitimate infant**, a special register being kept for the purpose.

Neonatal Death-rate.—In the following table the deaths under one year have been tabulated to show various important causes of death :—

FOUR CHIEF CAUSES OF DEATH OCCURRING IN THE NEONATAL PERIOD.

(Rate per 1000 Births.)

	1924.	1925.	1926.	1927.	1928.
Congenital Malformations	4·9	5·4	4·9	5·1	3·6
Injuries at Birth	1·3	1·4	2·3	2·4	3·0
Prematurity	16·9	18·1	14·6	18·5	14·9
Atrophy, Debility and Marasmus	10·5	8·6	11·3	9·4	7·2

Most of these conditions, it may be assumed, are such as should be beneficially influenced by ante-natal and natal care ; yet the deaths from injuries at birth, according to this analysis, show quite a definite rise in incidence from year to year.

The increasing incidence of deaths from injuries at birth already referred to, suggested that a more detailed analysis of the neonatal mortality rate might prove helpful. This was done for three 3-yearly periods, one of which was a pre-war one. The number of deaths for each day of the first month of life was noted, with the result shown in the following Table :—

NEONATAL MORTALITY.—Deaths.

	At 1 Day.	At 2 Days.	At 3 Days.	At 4 Days.	At 5 Days.	At 6 Days.	Birth to 1 Week.	Birth to 1 Month.	Under 1 Year.
1911.	118	20	15	12	9	9	183	310	750
1912.	106	31	24	7	11	9	188	314	702
1913.	97	30	15	9	3	8	162	269	631
	321 = 15.4%	81 = 3.8%	54 = 2.6%	28 = 1.3%	23 = 1.1%	26 = 1.2%	533 = 25.6%	893 = 42.8%	2,083
1922.	148	19	16	5	5	5	212	332	798
1923.	102	37	17	15	7	5	183	316	711
1924.	118	27	20	7	8	5	185	324	752
	368 = 16.2%	83 = 3.6%	56 = 2.4%	38 = 1.6%	20 = 0.8%	15 = 0.6%	580 = 25.6%	972 = 42.9%	2,261
1925.	122	31	12	5	6	4	180	279	751
1926.	94	19	17	8	8	7	153	264	632
1927.	125	22	13	11	5	8	184	272	606
	341 = 17.1%	72 = 3.6%	42 = 2.1%	24 = 1.2%	19 = 0.9%	19 = 0.9%	517 = 25.4%	815 = 40.0%	1,989
1928.	92 = 16.6%	29 = 5.2%	17 = 3.0%	9 = 1.6%	4 = 0.7%	3 = 0.5%	154 = 27.8%	238 = 43.0%	553

From this Table the interesting fact emerges that there is a definite tendency to an increased incidence in the mortality rates for the first two or three days of life—an added inducement for an intensive campaign in favour of the further development of the resources of ante-natal and natal supervision. Should the tendency shown here be allowed to continue unchecked, a time must inevitably come when the increasing neo-natal mortality rate will counteract the reduction of infant deaths in the later months and lead ultimately to a general rise in the City's infant mortality rates.

TUBERCULOSIS.

Death-rate per 1,000 living under Five Years of Age.

	1924.	1925.	1926.	1927.	1928.
Tuberculous Meningitis . .	1.27	1.16	0.91	0.91	0.75
Abdominal Tuberculosis . .	0.48	0.61	0.33	0.27	0.21
Other forms of Tuberculosis (mainly Surgical Tuberculosis)	0.30	0.67	0.30	0.24	0.15

This Table is shown to demonstrate the quite definite fall in the death-rate from those forms of Tuberculosis specially affecting infants and children up to school age. It is reasonable to assume that the improvement in the quality of the general milk supply in the City in recent years has some bearing upon this satisfactory result.

Visiting in the Home.—Through the Notification of Births Act, 1907, and the Extension Act of 1915, all births must be notified within thirty-six hours to the Local Authority of the District in which they occur. As the result of this information, the Health Visitors are enabled to visit in their own homes those babies who need their help and supervision. The first visit is not paid till the tenth day after confinement in order to avoid unnecessary overlapping during the attendance of the doctor or midwife. 6,706 Infants under one year of age were under supervision, and these received 34,657 visits in all; 50,882 visits were paid to children between 1 and 5 years of age, 740 of which were visited for the first time at this age period. In addition, 1,987 special visits were paid to 1,055 expectant mothers.

In the month of May four temporary whole-time assistant medical officers were appointed to take the place of the part-time medical officers at the Infant Welfare Clinics, and also take over the duties of the clinical assistants who visited in their homes, ill babies of parents who could not afford to pay for medical attendance. Up to the end of the year 962 first visits and 1,071 subsequent visits were made under this experiment. As the new régime has only existed for seven months, it is too soon to assess the value of the change.

The members of the Voluntary Health Workers' Association in Edinburgh assist in carrying on regular fortnightly visits to all infants referred to them from the Department. The Association issues a separate Report annually, to which reference should be made for details of the various useful activities carried on by its members.

In the Leith area another group of ladies also act as Voluntary Health Workers. They help at the Welfare Clinics, and in many other ways assist in the work of the Department. It is with great pleasure that I avail myself of this opportunity to thank them for their labours.

There are thirteen Infant Welfare Centres for the following work :—

(a) **Preventive Clinics.**—These are held for the prevention and correction of dietetic errors and minor ailments. The undernoted figures will give an indication of their scope.

CENTRE.	Number of Clinics held.	NEW CASES.			TOTAL ATTENDANCES.		
		Under 1 year.	Over 1 year.	TOTAL.	Under 1 year.	Over 1 year.	TOTAL.
Gorgie . . .	88	154	25	179	1,299	936	2,235
Torphichen Street . . .	102	168	17	185	2,030	1,951	3,981
High Street . . .	150	219	14	233	3,161	3,066	6,227
Pleasance . . .	142	282	79	361	3,296	3,071	6,367
Windsor Street . . .	51	155	52	207	1,470	757	2,227
Stockbridge . . .	91	202	69	271	2,250	1,721	3,971
* Marshall Street . . .	45	104	59	163	734	519	1,253
* Elsie Inglis Memorial Hospital . . .	146	341	162	503	2,477	1,141	3,618
TOTALS . . .	815	1,625	477	2,102	16,717	13,162	29,879
Figures for 1927 . . .	794	1,573	422	1,995	18,611	14,000	32,611

* These Dispensaries receive a grant from the Corporation.

(b) **Curative Clinics.**—These are held for purely curative measures at Centres situated in those areas of the City at a distance from existing hospitals and dispensaries. Any future development of these Centres should include provision for the supervision and treatment of mothers and infants suffering from venereal diseases, as it is often a difficult matter to persuade such a mother to present herself or her child at another place which is a recognised centre for the treatment of these diseases only.

The following Table shows the number of Curative Clinics held at the various Centres and Dispensaries, with the total attendance at each.

CENTRE.	Number of Clinics held.	ATTENDANCES.		
		Old Cascs.	New Cascs.	TOTAL.
* Cowgate . . .	92	2,467	264	2,731
Gorgie . . .	50	374	166	540
* Torphichen Street . . .	61	407	232	639
High Street . . .	29	67	95	162
* Marshall Street . . .	46	220	117	337
Portobello . . .	96	2,956	186	3,142
* Richmond Street . . .	47	1,570	184	1,754
* Riego Street . . .	52	1,148	120	1,268
Leith . . .	104	2,331	992	3,323
* Elsie Inglis Memorial Hospital	98	313	229	542
TOTALS . . .	675	11,853	2,585	14,438
Figures for 1927 . . .	797	13,223	4,251	17,474

* These Dispensaries are subsidised by the Corporation, the clinics being conducted by doctors on the regular staffs of the Dispensaries.

(c) **Ultra Violet Ray Therapy.**—Clinics have been held daily at the Leith Welfare Centre, and at the Pleasance Centre, on two mornings a week. Since November an afternoon clinic has also been held at the Pleasance on four days per week. These afternoon sessions have been made possible through the kindness of Miss Grieve, who is a trained nurse, and who offered her services for a year gratuitously. The number of cases treated at these two Centres and the number of attendances is shown in the

following Table. If care is taken with the selection of suitable cases, and if exact supervision during exposure is carried out, there is no doubt that benefit is derived by those children who are given this form of treatment :—

Centre.	Number of Cases.	Number of Exposures given.	
		M.V. Lamp.	C.A. Lamp.
Leith	168	2,190	...
Pleasance, a.m.	217	1,081	1,162
,, p.m. *	38	54	297
Total	423	3,325	1,459

* These only started in November.

(d) **Mothercraft Classes.**—These are held at most Centres, and at them simple talks on health subjects are given to the mothers who attend ; while once a year the Hutchison Silver Shield (gifted by the late Lord Provost Sir Thomas Hutchison, Bart.), is competed for among the various Infant Welfare Centres under the Corporation. The number of mothers attending these classes shows a steady increase from year to year. In 1924, the first year of the competition, 35 mothers enrolled, of whom 13 actually competed. In 1928, 223 mothers attended the classes, of whom 101 entered for the competition. I have pleasure in thanking those members of the Public Health Committee who so kindly contributed to the prize fund in connection with the competition.

(e) **Special Demonstrations in Cookery.**—Demonstrations have been given throughout the year at different Centres to mothers, with the aim of teaching them how, on a meagre weekly budget, and with an ordinary room grate as the only means of cooking, varied and nutritious meals may be produced. The women have been really interested, and I consider this a valuable addition to the activities of the Department. The Centres visited were the Pleasance, Windsor Street, and the Toddlers' Playground, Ferry Road. The total number of women attending one or other of the centres four times was 105.

Day Nurseries.—The Child Welfare Scheme includes four Day Nurseries for the care during the day of children whose mothers have to earn their own living by going out to work. A small charge is made for each child. Should any future development of these institutions be contemplated, it is hoped that they may be made to cover a wider sphere without necessarily becoming real Nursery Schools, but rather by introducing an element of organised play and simple lessons such as are judiciously combined in a Child Garden. They would at the same time retain much of that freedom of action and less formal atmosphere and the mothering care which are essential features of the Day Nursery.

Until the present shortage of housing accommodation with its attendant overcrowding is lessened, a system of night nurseries might be usefully instituted, where children living under unhealthy atmospheric conditions could be left over-night for a small payment. Under such a scheme the children would merely be brought to the Night Nursery in the evening and called for in the morning. The parents, especially the mother, would benefit from peaceful nights, and both would be more fit to cope with their daily duties as the result of a complete night's rest. Such a scheme to be of value would need to be carefully supervised, and its benefits entirely restricted to children living in overcrowded rooms below a certain minimum cubic capacity per inmate. These Night Nurseries would be specially valuable in dealing with children sleeping under such conditions with tuberculous parents, the risk of contact infection to the child being much greater during the night than during the day, when the doors and windows are more likely to be kept open and the children not necessarily confined indoors.

The accompanying Table shows the attendances at each of the four Day Nurseries :—

Day Nursery.	Attendances— Infants.	Attendances— Children.	Total Attendances.
Danube Street . . .	930	1,852	2,782
Dumbiedykes Road . . .	1,279	4,786	6,065
Grove Street . . .	646	3,088	3,734
South Fort Street, Leith . .	1,939	5,869	7,808
TOTALS . . .	4,794	15,595	20,389
Figures for 1927 . . .	5,998	14,286	20,284

At the Leith Day Nursery, four or five cots are set apart for the reception of healthy children whose mothers have to enter an hospital for treatment. In many cases it is impossible for the parents to make adequate arrangements for the care of the younger members of the family during the mother's absence. In such circumstances the children are kept in residence at the Nursery day and night until the mother returns to her home—the board being partly paid by the parents. This small provision of cots does not adequately meet the demand for such help.

There are eleven **Play Centres** with an average daily attendance of 30–40 toddlers, who are looked after for two hours every forenoon, while the mothers are busy with their morning housework or shopping. These Centres are a cheap, essential, and much appreciated form of Child Welfare activity.

The following figures represent the attendances at the various Centres :—

Centre.	Number on Roll.	Daily Attendance.	Centre.	Number on Roll.	Daily Attendance.
Fountainbridge . .	82	30	Fishmarket Close .	52	30
High Street . .	67	45	Central Halls .	82	30
Pleasance . .	50	40	Leith (2 Centres) .	131	106
Stockbridge . .	47	25	Barony Street .	78	30
Cowgate . .	20	15	Chessel's Court .	19	14
			Totals . .	628	365

Five **Child Gardens** each receive a small annual subsidy from the Corporation. It is no exaggeration to say that the toddlers attending these Institutions, in addition to the mental development and improvement which they undergo, do, in fact, act as missionaries in their own homes, to which they carry the message of orderliness, cleanliness, and other simple rules of healthful living, taught them at the Child Garden.

The Child Gardens are situated in densely populated localities as under :—

St. Saviour's, Chessel's Court. Child Garden, East Adam Street.

Hope Cottage, Cowan's Close. Child Garden, Vennel.

Free Child Garden, Reid's Court.

At **Victoria Park Home** are admitted cases of Malnutrition and General Debility, the result of various causes, such as improper feeding and the after effects of Measles, Whooping Cough, Pneumonia, etc. There are only 20 beds at this Home to meet the requirements of the whole City. The number of admissions during the year was 122, but in addition there were resident in the Home on 1st January 1928, 23 infants, thus making a total of 145 treated during the year. The average daily occupation was 18·8 and the average time spent in the Home varied from six weeks to two months.

While there is an urgent need of more indoor accommodation for the "Debilitated Child" if we are to prevent the onset of rheumatic and other conditions at a later period,

here is also a need of beds for the mother who has special difficulty in breast-feeding her infant—a requirement which should be kept in mind in any future institutional development.

In regard also to institutional treatment of both mothers and children under the Maternity and Child Welfare Scheme a combining of forces with the Venereal Diseases Department in the case of the "innocent sufferer" might well be considered.

The following Homes receive financial help from the Corporation for the work they carry on:—

(1.) **Hawthorn Brae Home, Duddingston**, where mothers and nursing infants recommended by the Department are sent for a short stay and paid for by the Corporation. During the year 24 mothers and 20 infants were thus recommended.

(2.) **Edinburgh Home for Mothers and Babies**, which receives an annual grant of £120, had 33 girls in residence during the year, of whom 22 were new admissions; also 26 babies in residence, of whom 22 were admitted during the year. The average length of stay of the girls was $4\frac{1}{2}$ months, and of the babies, $3\frac{1}{2}$ months. The average age of the babies on discharge was 4 months.

(3.) **Bonnington Bank Home for Mothers and Infants**, which is in charge of the Salvation Army, receives an annual subsidy of £150. The following statistics show the extent of the work accomplished:—

* In the Home 1st January 1928	Mothers 19.
	Babies 12.
Admitted during the year	Mothers 40.
	Babies 29.
Passed out during the year	Mothers 39.
	Babies 28.
In the Home 31st December 1928	Mothers 20.
	Babies 13.

* Includes Mothers and Expectant Mothers.

(4.) **Home for Babies, Polwarth Terrace**, which receives £60 annually, has accommodation for 14 infants under two years of age. On the 1st January 1928, there were 14 infants in residence, and during the year 9 new cases were admitted. The annexe at 3 Forbes Road had in residence on 1st January 1928, 5 infants, and admitted during the year 5 new cases.

(5.) **Humbie Children's Village** receives children between 3 and 5 years of age recommended by the Department for periods of two or three weeks at a time. During the year 115 such children were sent and paid for by the Corporation.

Mother and Infant Care Committee and National Children Adoption Association, Scottish Branch.—This Committee was inaugurated in Edinburgh in 1923 and acts in close association with the Maternity and Child Welfare Department. The object of the committee is to aid with advice and material help the widower left with the very young baby, the widow in distress, the wife in any peculiar difficulty, and above all the unmarried mother at a period when the strain of not knowing what to do or where to turn is heaviest. The aim, however, is always to protect the life of the child, and in cases where it seems best for the child the Committee arranges for its adoption on a purely non-financial basis. Since its inception the Committee has dealt with an average of 50 to 200 cases a year, and has arranged about 120 adoptions, all of which, I am assured, have secured the mutual happiness of foster parent and child.

The following institutions, which do not receive a subsidy from Corporation funds, actively assist in the work of Child Welfare :—

The Children's Shelter, which in addition to its work of attending to neglected children, admits when there is room, certain infants whose mothers are temporarily laid aside by illness. This is of great assistance when, as so often happens, vacancies are not available elsewhere.

Leadburn Home for Tired Mothers, which is under the supervision of the Edinburgh Children's Holiday Fund.

Providence House, Kinghorn, and **Murieston House, Midlothian**, to which a large number of mothers and children are sent for a fortnight's change, many of whom go on the recommendation of the Department.

Assistance with Milk and Dinners.—If for health reasons children and expectant or nursing mothers require extra nourishment, this is granted in the form of milk or dinners.

The quantity of milk and number of dinners distributed during the year was as follows :—

Milk—Assisted . . .	129,818½ pints.
Free . . .	131½ pints.
Dinners—Assisted . . .	12,409
Free . . .	11

Measles.—In the spring and early summer months an epidemic of Measles was in progress which began to subside by the month of June. Of the 4,340 first cases of Measles notified during the year, 2,121 related to children under the age of five years—and 190 of the latter figure were under one year.

A temporary nurse was specially appointed to visit the more serious of these cases, and made 804 domiciliary visits. Where it was considered necessary, the cases were also visited by a doctor attached to the Department.

Hospital treatment was provided for 455 of the total cases notified.

The total deaths from Measles numbered 77, and these were certified as under :—

CAUSE OF DEATH.	Age Periods.			Totals.
	-1.	1-5.	Over 5 Years.	
Measles	2	2	...	4
„ with Pneumonia . .	17	37	3	57
„ „ Bronchitis . .	1	2	...	3
„ „ Other Causes . .	6	6	1	13
Totals . .	26	47	4	77

Whooping Cough.—There were 1,390 cases of Whooping Cough notified in the course of the year, and of these, 172 were children under one year, and 763 were between the ages of one and five years. Of the total cases notified, 240 were removed to hospital, while the special nurse made 475 domiciliary visits to serious cases.

There were 80 deaths ascribed to Whooping Cough, and these were classified as follows :—

CAUSE OF DEATH.	Age Periods.			Totals.
	-1.	1-5.	Over 5 Years.	
Whooping Cough	5	2	...	7
„ „ with Pneumonia .	16	33	1	50
„ „ „ Bronchitis .	3	3	...	6
„ „ „ Other Causes .	9	8	...	17
Totals . .	33	46	1	80

To all those whose generous co-operation, official and voluntary alike, has throughout the year so greatly furthered our City's work for the welfare of its mothers and children I would express my warm thanks and deep appreciation.

I have, Sir, the honour to remain,

Your obedient Servant,

T. Y. FINLAY, M.D., F.R.C.P.Ed.

VENEREAL DISEASES.

The following Report in regard to the Venereal Diseases Scheme has been prepared by the Clinical Medical Officer :—

I have the honour to submit to you a Report of the work carried out under the Venereal Diseases Scheme during the year 1928.

Under the Scheme, provision is made for the examination and treatment of adult males and adult females and children of both sexes in the Royal Infirmary, Edinburgh ; for male residents of Leith and merchant seamen at the Seamen's Dispensary, Leith ; for adult females and children in the Edinburgh Hospital for Women and Children ; for pregnant women in the Ante-natal Departments of the Royal Maternity Hospital and Elsie Inglis Memorial Hospital ; for women and children in the subsidiary Clinic attached to the Royal Infirmary, and in several of the dispensaries throughout the City.

New Patients. During the year 6,069 new patients were examined, the numbers reporting at the various centres being as follows :—

		Men.	Women and Children.	Total.
Royal Infirmary	.	2,799	1,017	3,816
Subsidiary Clinics	.	....	153	153
Bruntsfield Hospital and Dispensaries	.	....	840	840
Royal Maternity Hospital	.	....	864	864
Seamen's Dispensary, Leith	.	329	....	329
Royal Blind Asylum	.	40	27	67
Totals		3,168	2,901	6,069

These figures represent new cases only, the number of which shows an increase of 617 from 1927. In addition to the 6,069 new cases, a further number, approximately 4,000 cases, who had not completed their treatment, were carried over from the previous year. During the year, therefore, over 10,000 cases were under treatment.

In-patients. In-patient treatment was required in over 600 patients, about 12 per cent. of the total. This number does not include the patients who were treated at the Maternity Hospitals. The total number of in-patients and the institutions in which they received treatment is indicated in the following table :—

		Men.	Women and Children.	Total.
Royal Infirmary	.	235	137	372
Subsidiary Hospital	.	....	121	121
Bruntsfield Hospital and Elsie Inglis Memorial Hospital	.	....	223	223
Royal Maternity Hospital	.	....	247	247
Totals		235	728	963

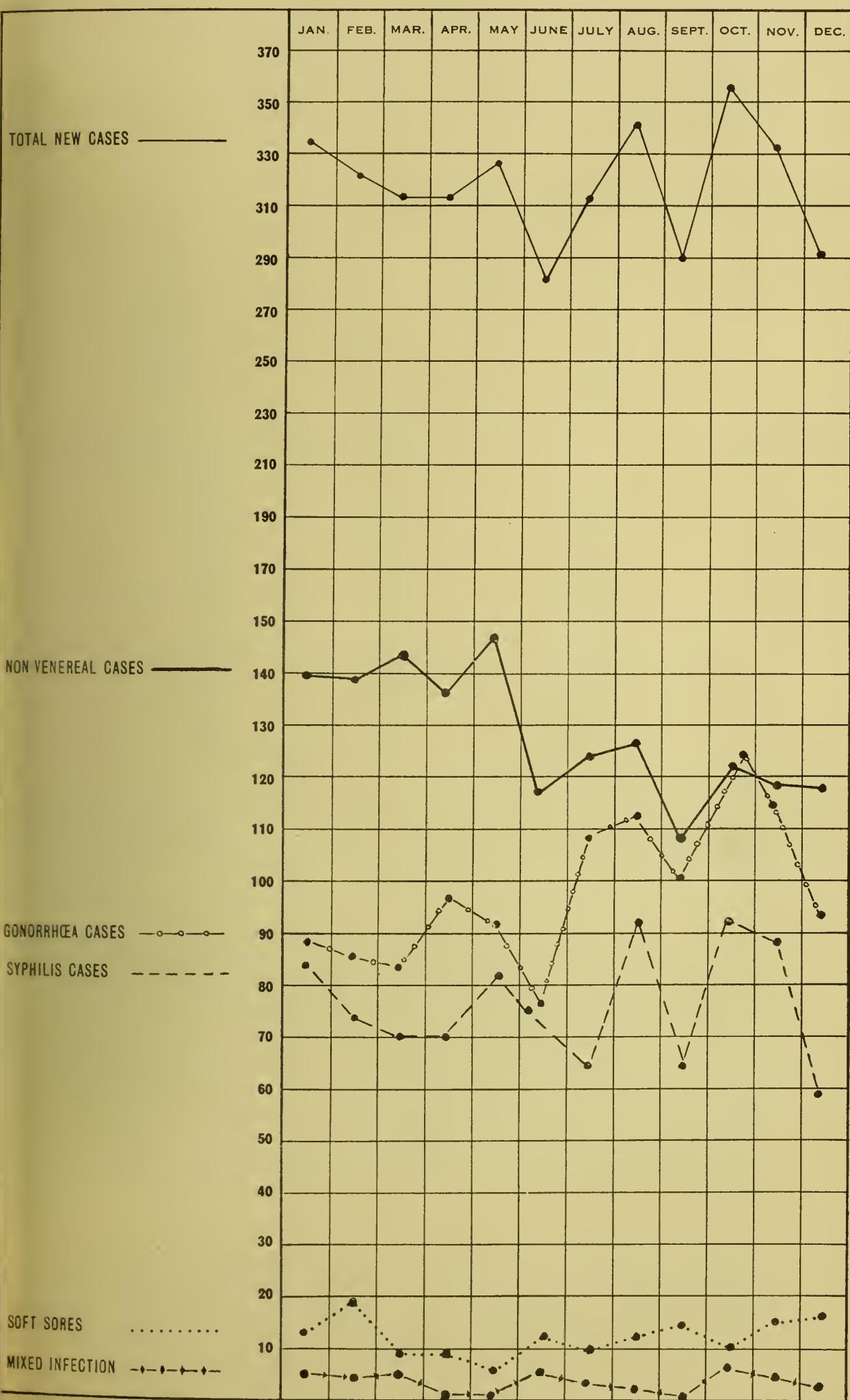
Out-patient Attendances. The number of attendances of out-patients was as follows :—

Royal Infirmary, Males	.	.	.	.	.	85,397
„ „ Females	.	.	.	.	.	22,974
Subsidiary Clinic	.	.	.	.	.	1,770
Bruntsfield Hospitals and Dispensaries	.	.	.	.	.	9,579
Royal Maternity Hospital	.	.	.	.	.	2,015
Seamen's Dispensary, Leith	.	.	.	.	.	11,099

The aggregate total of attendances is thus 132,834 ; 96,496 by male patients, and 36,338 by women and children.

COMPARATIVE INCIDENCE OF TYPES OF VENEREAL DISEASE

(ROYAL INFIRMARY VENEREAL DISEASES CLINIC)



There is a slight reduction in the number of attendances and a slight increase in the number of patients. In the two larger centres, the male and female departments of the Royal Infirmary, the average daily attendances were 272 in the former, and 85 in the latter. The decrease in the attendance of patients is largely attributed to the inability of country patients to attend regularly on account of financial difficulties due to unemployment. In such cases an attempt is made to teach the patient how to carry out treatment at home. In other cases the fares are refunded to the patient to enable him or her to attend. It is just possible also that some part of the decrease in the attendances is due to the marked increase in the number of non-venereal cases.

The following figures are very instructive and show the large number of patients who come to hospital to have their condition investigated, and who, after searching tests, show no evidence of venereal infection.

Year.		Males.	Females.	Total.
1924	.	491	236	727
1925	.	680	467	1,147
1926	.	849	583	1,432
1927	.	1,007	939	1,946
1928	.	1,199	1,163	2,362

The undernoted Table shows the number of new cases and the number of attendances for treatment since the inception of the scheme :—

Year.	New Patients.	Attendances.
1919	2,117	13,200
1920	3,383	73,032
1921	3,409	93,503
1922	3,250	95,383
1923	3,579	92,912
1924	3,861	106,456
1925	4,428	114,873
1926	5,086	113,849
1927	5,542	133,324
1928	6,069	132,834

The comparative incidence of the various types of venereal disease shows a slight change from previous years. There is a decrease in the number of the cases of inherited syphilis from 313 in 1927 to 284 in 1928. This decrease has been progressive, and may be a direct result of the increased amount of ante-natal treatment which is being administered.

The total number of infants who were treated under the scheme for a purulent conjunctivitis following on gonorrhœa was 44. All of these were suspected to be suffering from Ophthalmia Neonatorum, and 37 were notified as such. Of these, 29 were from Edinburgh and 8 were from other areas ; 20 cases were treated in hospital. Of the total number of cases treated in hospital, 13, as a result of bacteriological tests, were proved to be cases of Ophthalmia Neonatorum. Of the cases which came under observation in hospital, all were discharged cured and with no impairment of vision. We are strongly of opinion that in every case in which the first bacteriological test does not show evidence of gonococci, films from the eye should be examined daily. Not infrequently, as a result of the instillation of a silver preparation, the purulent discharge from the eye may be sterile for a day or two, and yet subsequently show definite evidence of gonococcal infection.

The importance of the figures quoted above cannot be over estimated. Ophthalmia Neonatorum is preventable if the prophylactic measures known to the profession are meticulously carried out. The importance of these prophylactic measures cannot be too much emphasised, and we would urge on the medical and nursing profession to

Non-Venereal Cases.

Comparative Figures.

Incidence and Types of Disease.

Congenital Syphilis.

Ophthalmia Neonatorum.

personally carry out this prophylaxis at every birth, and not leave it to some unskilled person. The number of cases in whom the risk of blindness is incurred in infancy is much too large, and certainly does not show a progressive decline such as one would expect with modern knowledge and teaching.

**Vulvo-
Vaginitis.**

The number of cases of vulvo-vaginitis in female children was 31, an appreciable decrease from 1927. These children require long periods of hospitalisation, and their treatment cannot be carried out satisfactorily as out-patients. In the majority of cases the infection results from contamination of the children's clothing by sleeping with infected parents. The nursing of these children is a very difficult problem and will be referred to later in this report.

**Acquired
Venereal
Infections.**

There has been a striking increase in the numbers of early cases of acquired syphilis in adults, a slight increase in the total incidence of syphilis, but no appreciable change in the incidence of gonorrhoea. Some increase in the number of cases of soft sore is revealed.

**Bacterio-
logical and
Serological
Work.**

The increase in the number of new patients and the marked increase in those who suspect disease has called for the examination of a very large number of bacteriological specimens. A total of 43,700 specimens were examined by Dr. Logan and his staff in the laboratory of the Royal Infirmary. Of these specimens, 6,178 were referred to the laboratory by practitioners and medical institutions. There are few centres which are so well served by their bacteriological scheme, and the work carried out in this department of the Royal Infirmary, which is subsidised by the Edinburgh Corporation, is of incalculable value and maintains the high standard of previous years.

Treatment.

While every effort is made to administer all the necessary treatment in the Clinics, it has, during the past year or two, been found increasingly difficult to do so in all cases, and especially among those residing at a distance from a centre. Where absolutely necessary, patients are assisted with their train fares, and there undoubtedly has been some increase in expenditure in this direction. There is no appreciable change in the routine treatment for syphilis, but new preparations are constantly being tried and evaluated. The results of the treatment of neuro-syphilis with Tryparsamide still continue favourable, and in selected cases malarial therapy has been practised. The treatment of gonorrhoea has not changed.

There is undoubted proof that in-patient treatment is much more valuable in female infections, and increased bed accommodation, especially for married women, is an urgent necessity. Intensive treatment for three or four weeks in hospital often saves a considerable amount of time and suffering, and the increase in the number of female patients treated under the scheme makes the need for further beds the more clamant.

**Standards of
Cure and
Results.**

The same rigid tests of cure as were mentioned in previous reports have been adhered to, and, judged by this standard, the results of treatment in both syphilis and gonorrhoea have been very promising.

Discharges.

The number of patients who were discharged, after undergoing tests of cure, was 3,637.

Transfers.

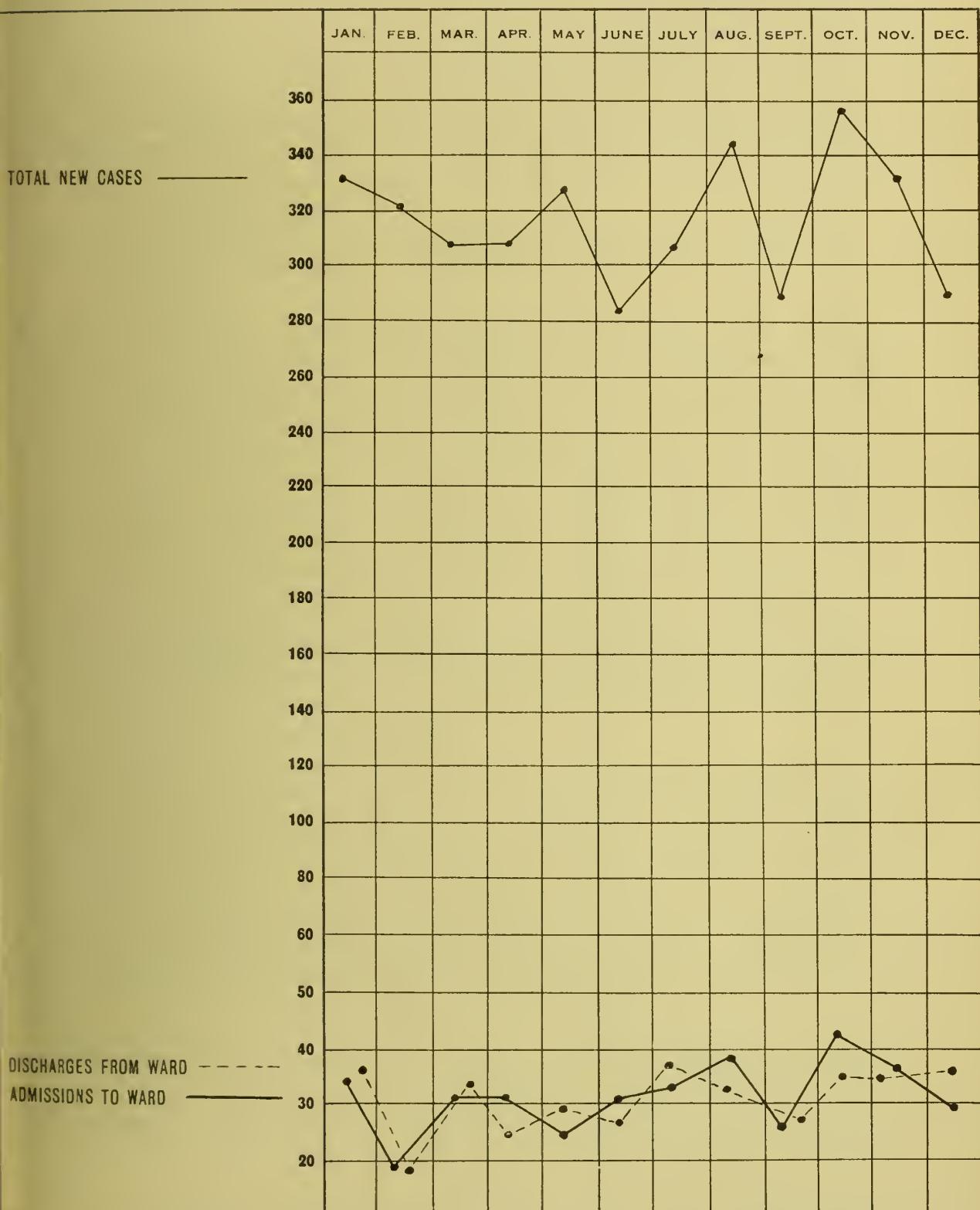
The number of patients transferred to other centres was 958; while approximately 4,000 patients remained under active treatment.

**Percentage
continuing at
treatment
until
cured.**

The percentage of defaulters from treatment is estimated on the ratio which the number of defaulters bears to the total number of cases leaving the centres for any reason. During the year 1928 this percentage is 26, and shows a decrease from the previous year. The 26 per cent. represents 863 patients.

NUMBER OF NEW PATIENTS AND PROPORTION REQUIRING
IN-PATIENT TREATMENT

(ROYAL INFIRMARY VENEREAL DISEASES CLINIC)



All male defaulters have been followed up by letter. In the case of females every defaulter has been written to or personally visited by the nurse almoner. The following extract from Nurse Marshall's report for 1928 is instructive :—

Follow-up work.

" During the year 1928 the names of 900 patients who had ceased attending for treatment were submitted from the various centres ; 263 letters were written and 1,840 visits paid to the homes of these patients. Of the total number of defaulting patients 110 could not be traced ; these were practically all single girls who had left their situations or their lodging houses ; 70 individuals refused to return for treatment in spite of persuasion and warning ; 720, or 80 per cent. returned to the centres for further observation, treatment, and advice. On the surface these figures may appear satisfactory, but the success is frequently only partial. It is our experience that at least 40 per cent., or half of the 80 per cent. who return, default again and again at short intervals, and a considerable number finally refuse to come for further treatment. In these cases many visits are paid before meeting with any or even partial success. In attempting to explain the unwillingness to return for treatment we are of opinion that there are two chief reasons :—

- (1) Carelessness of their own welfare and of that of others, although every thing is fully explained to them.
- (2) Inability of patients of this type, because of their ignorance, to appreciate the importance of anything said to them with regard to the necessity for regular treatment.

It is only those who are in constant contact with this type of patient who can know the difficulty of succeeding with the careless individual, and the hopelessness of trying to educate many of those who do not wish to be educated or are uneducable. The work is all the more difficult when it is remembered that the patients feel well and think that they are in good health because they are not suffering pain and have no surface disease.

" The problem of dealing with the infected single girl still remains very difficult. We have been able to place a certain number in homes and institutions and keep in touch with them, but there still is great need in Edinburgh of a home, or hostel, or a well-run lodging-house where such infected girls would be under supervision, would be able to carry out their treatment, and would be given every opportunity of changing, what in many instances, is their only mode of living. Most of these girls are morally deficient, many of them are mentally deficient, although they are not sufficiently so to come within the scope of the Mental Deficiency Act. Hostels for this type of patient are being successfully run in London, and an institution such as this would be invaluable to the Edinburgh scheme in dealing with the infected single girl.

" In addition to a hostel there is also need of a fund to provide clothing, extra nourishment, and short holidays for needy cases. Outside charitable agencies have been appealed to for help, but patients naturally resent being closely questioned by officials who do not know the cause of the illness and are not always sympathetic. It is our experience that many social agencies do not appreciate the delicateness of this task in the case of innocent patients. Through the generosity of private citizens we have been able to give a considerable amount of help during the past year, but we consider that a fund ear-marked for this purpose would fulfil a much-needed want and enable us to help many deserving cases of innocently infected mothers and children.

" In the course of our work we are faced with an appreciable number of cases of mentally defective girls and children. The staff of the Edinburgh Parish Council have been very helpful in dealing with this type of patient, many of them difficult, and some of them dangerous. There is a lack of accommodation for this class of patient and for those 'border-line' cases which would undoubtedly benefit greatly by institutional treatment.

" It is our experience that in carrying out follow-up work and in tracing sources of infection and contacts great care has always to be exercised. In those who default again and again at short intervals, and in the two classes of cases previously mentioned, the careless and the ignorant, the work is often disheartening. We see and know of infected cases who are nullifying the successful work of the clinics. We feel that additional

power to deal with these cases is essential if the full value of follow-up work is to be attained. Nothing in the nature of appeal or persuasion seems to influence the type of patient referred to, and the vesting in the Health Authority of power to deal with such patients would be of very great educational value, and would, in our opinion, make follow-up work of defaulting patients much more efficient and complete."

This report by the almoner, who is up against the difficulties of the situation daily, is the experience of all those who are working in connection with the Venereal Diseases Scheme. We have no doubt but that a measure of compulsory treatment would protect the community from those infected patients, would have a salutary effect in reducing their numbers, and would prove a blessing in disguise to the defaulters themselves.

**Treatment
of the
Mercantile
Marine.**

The treatment centre at the Shore, Leith, continues to be well patronised. An increasing number of patients have availed themselves of treatment at this centre. In 1928, 329 new patients were seen, as compared with 238 the previous year, and 11,099 visits were paid as compared with 8,218 in 1927.

**Royal Blind
Asylum.**

During the year 1928 a commencement was made at the Royal Blind Asylum and School to investigate cases of partial or complete blindness. The directors of the institution kindly offered to defray all expenses apart from the services of the medical staff and the necessary drugs. A proportion of the inmates of the institution suffer from blindness because of disease in their parents being transmitted to them at birth. While in some cases it is possible to obtain slight improvement in vision ; in all, a great deal can be done to improve the general health of the individual by appropriate treatment. The blindness is only the outward manifestation of disease, the germs of which are still in the patient's circulation. It is gratifying to know that the Superintendent and the Management of the Institution are of opinion that the health of a considerable number of the patients so treated has been improved, thus enabling them to benefit to a greater extent from their education and training.

**Tables and
Diagrams.**

The work carried out in the various treatment centres is seen in the tables attached to this report. The diagrams show the seasonal incidence of the disease, the percentage of different types of infection, the number of individuals requiring in-patient treatment, and the attendance rate at the various centres.

**Need for
Increased
Bed
Accommo-
dation.**

We have referred on previous occasions to the value of in-patient treatment, and it is admitted by every worker in this field that, in dealing with women and children especially, in-patient treatment is much more valuable and gives better results in a shorter period of time. The more follow-up work that is done the larger becomes the number of cases of innocent infection to be dealt with. It is obviously unfair to label these patients as cases of venereal disease, or at any rate as cases of disease venereally acquired. Many of them are young children and their mothers, and the beds already available in the subsidiary hospital have proved invaluable in dealing with this type of case. In this hospital they are dealt with as "Diseases of Women and Children"; the term venereal disease is not obtruded. The number of beds has not proved sufficient to meet the situation during the past two years. Many of these cases are referred to us for investigation from the Child Welfare Department, and are found to be suffering from latent venereal disease. The majority of them are not contagious. We consider that, if the treatment of such cases is to be successfully carried out, and if we are to act fairly towards such patients, they should be treated in wards run under the Child Welfare Scheme and not labelled as cases of disease venereally acquired. In considering the provision of additional beds in any extension of the Child Welfare Scheme it would be to the mutual benefit of that scheme and of the Venereal Diseases scheme to make provision for the diagnosis and treatment of mothers and children who are suffering from latent disease which they have innocently acquired or inherited. We have discussed this matter with

the Child Welfare Officer, who is in complete agreement with the need for closer co-operation between the two Departments, especially in the provision of bed accommodation.

From the figures given in this report it is apparent that the amount of work which has been done could not have been possible without the assistance of a very efficient medical, nursing, and clerical staff. Their work is arduous and often difficult, and I desire to bring to your notice and to put on record my appreciation of their valuable help. I desire also to place on record the invaluable work carried out by the lady almoner, which has very materially aided in reducing the defaulter rate and in improving the efficiency of the scheme.

DAVID LEES, D.S.O., M.A., M.B., F.R.C.S., M.R.C.P.(E),
Clinical Medical Officer, Edinburgh Corporation Venereal Diseases Scheme.

[TABLES.

**EDINBURGH CORPORATION VENEREAL
DISEASES SCHEME.**
ROYAL INFIRMARY CLINIC.

REPORT FOR THE YEAR ENDING 31ST DECEMBER 1928.

Number of New Cases Attending :—

	EDINBURGH.		OTHER AREAS IN SCHEME.		OTHER AREAS OUTSIDE SCHEME.		AREAS OUTSIDE SCOTLAND.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
January . . .	163	73	50	21	19	4	3	...
February . . .	184	55	39	17	19	8	1	...
March . . .	175	63	37	12	12	10	3	1
April . . .	170	56	39	16	19	10	4	...
May . . .	172	62	33	22	24	12	3	...
June . . .	140	63	32	13	32	1	1	...
July . . .	178	54	39	10	18	9	3	...
August . . .	183	60	39	25	24	6	7	...
September . . .	158	43	35	13	23	11	6	...
October . . .	179	70	36	19	35	11	6	...
November . . .	176	63	42	14	20	17	1	...
December . . .	155	46	37	15	22	10	3	2
Totals . . .	2033	708=2741	458	197=655	267	109=376	41	3=44
			EDINBURGH					
			.	.	.	.	2741	
			Other Areas in Scheme	.	.	.	655	
			Other Areas outside Scheme	.	.	.	376	
			Areas outside Scotland	.	.	.	44	
			Grand Total				3816	

Of the New Cases Attending there were :—

EDINBURGH.

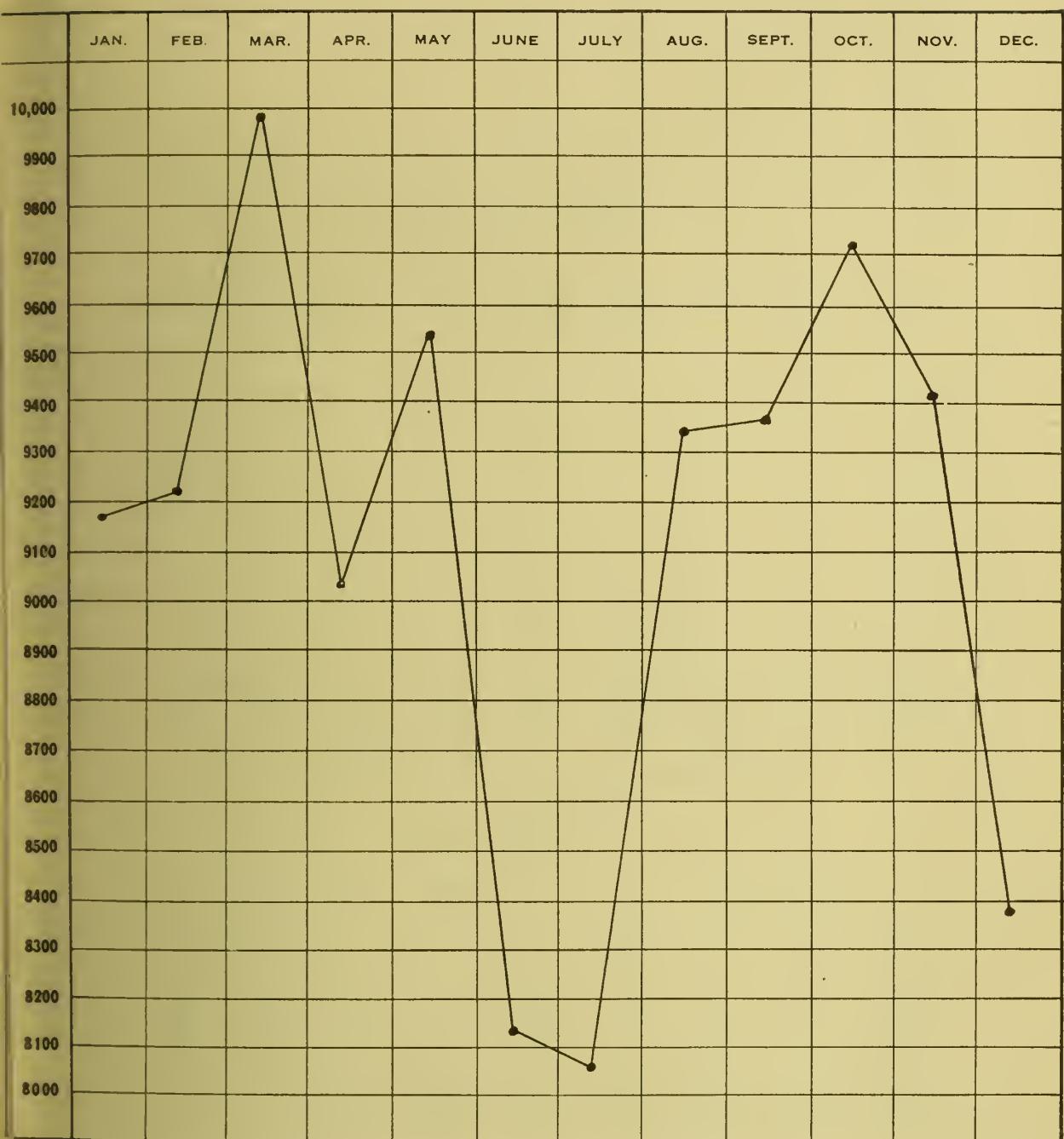
	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
January . . .	36	52	6	6	63	29	12	...	32	
February . . .	31	59	17	3	74	21	6	...	28	
March . . .	28	53	9	4	81	24	8	...	31	
April . . .	29	57	9	1	74	16	13	...	27	
May . . .	36	53	5	1	77	16	14	...	32	
June . . .	30	47	9	...	54	22	10	...	31	
July . . .	31	71	7	4	65	15	15	...	24	
August . . .	43	66	9	...	65	22	11	2	25	
September . . .	23	64	11	2	58	16	9	...	18	
October . . .	41	68	6	5	59	20	19	1	30	
November . . .	41	55	12	3	65	27	17	1	18	
December . . .	28	54	12	...	61	13	9	...	24	
Totals . . .	397	699	112	29	796	241	143	4	320	

OTHER AREAS IN SCHEME.

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
January . . .	9	17	4	...	20	7	2	...	12	
February . . .	12	12	1	2	12	4	2	...	11	
March . . .	7	11	...	1	18	5	2	1	4	
April . . .	8	15	...	...	16	7	3	...	6	
May . . .	9	11	2	...	11	9	1	...	12	
June . . .	7	10	2	...	13	2	3	...	8	
July . . .	9	11	2	...	17	3	...	...	7	
August . . .	8	16	2	1	12	9	5	...	11	
September . . .	8	16	1	...	10	8	...	...	5	
October . . .	5	18	3	...	10	5	5	...	9	
November . . .	5	23	2	...	12	3	2	...	9	
December . . .	4	16	3	2	12	3	7	...	5	
Totals . . .	91	176	22	6	163	65	32	1	99	

CHART SHOWING MONTHLY ATTENDANCES

(ROYAL INFIRMARY VENEREAL DISEASES CLINIC)



OTHER AREAS OUTSIDE SCHEME.

	MALES.				FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.
January	5	3	2	...	9	...	...	...	4
February	3	7	1	...	8	2	...	...	6
March	2	6	...	...	4	3	2	...	5
April	4	7	...	...	8	5	...	...	5
May	6	8	...	...	10	5	4	...	3
June	14	6	1	...	11	1	...	...	...
July	3	9	1	...	5	2	1	...	6
August	6	8	...	...	10	3	1	...	2
September	5	5	2	...	11	4	2	...	5
October	17	8	1	1	8	3	2	...	6
November	8	5	1	...	6	5	3	...	9
December	4	4	1	1	12	5	2	...	3
Totals	77	76	10	2	102	38	17	...	54

AREAS OUTSIDE SCOTLAND.

	MALES.				FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.
January	...	3	...	...	...	...	...	...	...
February	1	...	...	...	...	...	...	...	...
March	...	2	...	...	1	1	...	...	...
April	1	2	...	...	1	...	...	...	...
May	1	...	...	...	2	...	...	...	...
June	1	...	...	...	...	...	...	...	...
July	1	2	...	...	...	...	...	...	...
August	1	5	...	...	1	...	...	...	...
September	...	4	...	...	2	...	...	...	...
October	1	4	...	...	1	...	...	...	...
November	...	1	...	...	...	...	...	...	...
December	1	1	...	...	1	1	1	...	...
Totals	8	24	...	...	9	2	1	...	...
Grand Total	573	975	144	37	1070	346	193	5	473
	2799				1017				3816

AGE PERIODS.

	MALES.				FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.
Under 1 yr.	...	...	...	...	...	9	1	...	30
1-5 yrs.	1	...	...	...	1	6	5	...	51
5-15 yrs.	7	...	...	...	5	32	6	...	104
15-25 yrs.	136	317	58	3	326	91	82	3	117
25 yrs. up	429	658	86	34	738	208	99	2	171
Totals	573	975	144	37	1070	346	193	5	473

Admissions to Hospital:—

	MALES.				FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.
Edinburgh	59	48	4	4	20	45	30	3	8
Other Areas in Scheme	20	20	1	1	2	11	11	1	1
Areas outside Scheme	18	24	2	1	4	15	7	...	5
Areas outside Scotland	3	4	...	...	...	...	...	...	...
Totals	100	96	7	6	26	71	48	4	14
	235				137				

Discharges from Hospital :—

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
Edinburgh .	58	53	5	3	17	39	34	6	6	
Other Areas in Scheme .	20	21	1	1	2	10	9	3	1	
Areas outside Scheme . .	16	22	1	...	4	14	5	...	4	
Areas outside Scotland . .	2	2	...	...	...	1	1	...	...
	<u>96</u>	<u>98</u>	<u>7</u>	<u>4</u>	<u>23</u>	<u>64</u>	<u>49</u>	<u>9</u>	<u>11</u>	
	<u>228</u>					<u>133</u>				

SPECIAL TREATMENT ADMINISTERED.

Number of Intravenous and Intramuscular Injections given :—

	Neokharsivan.	Sulfarsenol.	Bismuth.	Other Drugs.	Total.
January	632	507	1,877	906	3,922
February	547	532	1,919	1,048	4,046
March	628	650	2,231	1,228	4,737
April	584	566	2,036	952	4,138
May	706	543	2,228	842	4,319
June	658	482	2,131	780	4,051
July	552	481	1,909	861	3,803
August	701	680	2,189	828	4,398
September	642	673	2,126	818	4,259
October	760	674	2,252	756	4,442
November	708	636	2,548	736	4,628
December	605	448	2,183	774	4,010
	<u>7,723</u>	<u>6,872</u>	<u>25,629</u>	<u>10,529</u>	<u>50,753</u>

PATHOLOGICAL WORK.

Number of Specimens examined :—

	Wass.	C.S.F.	G.C.F.T.	D.Gs.	Smears.	Others.	Total.
January	1,260	53	238	111	1,232	9	2,903
February	1,221	37	205	143	1,346	7	2,959
March	1,349	64	254	107	1,276	25	3,075
April	1,199	26	230	111	1,056	93	2,715
May	1,290	31	272	125	1,351	86	3,155
June	1,198	35	222	123	1,075	15	2,668
July	840	38	210	104	1,082	28	2,302
August	1,252	39	147	139	1,086	6	2,669
September	1,065	28	163	108	1,012	10	2,386
October	1,323	37	294	137	1,174	21	2,986
November	1,400	35	288	187	1,165	35	3,110
December	1,166	30	282	138	994	51	2,661
	<u>14,563</u>	<u>453</u>	<u>2,805</u>	<u>1,533</u>	<u>13,849</u>	<u>386</u>	<u>33,589</u>

Total Attendances at the Clinic for Routine Dressings, etc. :—

	Males.	Females.	Total.	DAILY Males.	AVERAGE. Females.
January	7,447	1,720	9,167	286	68
February	7,396	1,843	9,239	284	73
March	7,901	2,094	9,995	304	83
April	7,100	1,926	9,026	273	77
May	7,393	2,155	9,548	283	86
June	6,326	1,804	8,130	243	72
July	6,400	1,660	8,060	246	66
August	7,427	1,910	9,337	282	76
September	6,388	1,975	8,363	245	79
October	7,801	1,916	9,717	284	76
November	7,237	2,172	9,409	280	86
December	6,581	1,799	8,380	260	75
	85,397	22,974	108,371	272	85

OTHER TREATMENT CENTRES IN EDINBURGH.

Subsidiary Centre for Royal Infirmary.

Number of New Cases	153
Syphilis. Gonorrhœa. Mixed Infection. No. V.D.	
62 44 1 46 =153	
Number of Patients treated in Hospital	121
Total Attendances of Out-patients	1770
Pathological Work—Number of specimens examined	1728
Special Treatment administered—Number of Injections given	2581

Hospital for Women and Children and Subsidiary Centres.

Number of New Cases	840
Syphilis. Gonorrhœa. Mixed Infection. No. V.D.	
132 419 20 269 =840	
Number of Patients treated in Hospital	223
Total Attendances of Out-patients	9579
Pathological Work—Number of specimens examined	4457
Special Treatment administered—Number of Injections given	1652

Royal Maternity Hospital.

Number of New Cases	864
Syphilis. Gonorrhœa. Mixed Infection. No. V.D.	
158 330 14 362 =864	
Number of Patients treated in Hospital	247
Total Attendances of Out-patients	2015
Pathological Work—Number of Specimens examined	2244
Special Treatment administered—Number of Injections given	451

Seamen's Dispensary, Leith.

Number of New Cases	329
Syphilis. Gonorrhœa. Soft Sore. Mixed Infection. No. V.D.	
61 134 19 19 96 =329	
Total Attendances of Out-patients	11,099

Pathological Work—Number of specimens examined

Special Treatment administered—Number of Injections given

DAVID LEES, D.S.O., M.A., M.B., F.R.C.S., M.R.C.P.(E.),
Clinical Medical Officer, Edinburgh Corporation V.D. Scheme.

PORT MEDICAL INSPECTION.

The following report in connection with the Port Medical Inspection has been prepared by Dr. Grierson, Assistant Medical Officer of Health, who is in charge of this branch of the Department's work.

I have the honour to submit the Annual Report of the work in connection with the Port Medical Inspection.

The trade of the Port of Leith is world-wide, as is indicated by the following list of foreign ports from which vessels arrive in the Port Sanitary District :—

Principal Trading Ports.

North American—New York, Philadelphia, Portland, Baltimore, Montreal, San Francisco.

South American—Buenos Aires, Bahia Blanca, Rosario.

Continental—Stockholm, Helsingfors, Leningrad, Libau, Konigsberg, Danzig, Stettin, Hamburg, Bremen, Copenhagen, Amsterdam, Rotterdam, Antwerp, Havre, Bordeaux, Oporto, Lisbon.

Mediterranean—Marseilles, Oran, Bona, Tunis, Alexandria, Port Said.

Indian—Karachi, Bombay, Calcutta, Rangoon.

Eastern—Shanghai, &c.

The bulk of the foreign shipping comes from Continental Ports. In addition there is a large amount of coastwise shipping from Home Ports, besides the constant arrival of vessels in the fishing industry.

AMOUNT OF SHIPPING ENTERING THE PORT DURING THE YEAR 1928.

	Number.	Tonnage.	Number Inspected by Assistant Medical Officer of Health.
Foreign :—			
Steamers	1,464	1,355,425	69
Motor	19	13,938	2
Sailing	4	612	...
Fishing . . . . .	...	...	...
Total—Foreign .	1,487	1,369,975	71
 Coastwise :—			
Steamers	4,361	1,153,246	5
Motor	23	8,126	...
Sailing	20	4,071	...
Fishing	3,427	262,636	...
Total—Coastwise .	7,831	1,428,079	5

IMPORTS AND EXPORTS.

The principal items of cargo imported at Leith consist of wheat, barley, oats, maize, rye, flour, meal, sugar, fruit, cement, timber, guano, manure, flax, hemp, fish (fresh and cured), butter, eggs, and esparto grass. Of these the chief import is grain, of which 290,505 tons were discharged.

The exports are chiefly coal, iron, oil, liquor and ammonia. Coal is the heaviest export, the total quantity loaded being 1,274,324 tons.

In the following statement particulars are given regarding cases of illness reported from vessels arriving at the Port and the subsequent precautions taken :—

Date.	Name of Vessel.	Where from.	Nature of Sickness.	Disposal of Case.	Remarks.
Jan. 16	" Arcos "	Leningrad	Enlarged Glands in Neck	Treated on Board	...
" 18	" Prahova "	Braila	Cold	Removed "	2 Cases.
" 28	" Scots Craig "	Antwerp	Influenza	Removed to City Hospital	...
Feb. 25	" Alfred Noble "	Bombay	Malaria	Removed to Royal Infirmary	...
April 13	" Elswick Park "	"	Colic	Treated on Board	...
" 13	"	"	Accident	"	...
May 14	" Siljan "	"	Rupture	Removed to Leith Hospital	...
" 21	" Strathfillan "	Rosario	Venereal	Directed to Treatment Centre	...
" 24	" Johannah Lehmann "	Hamburg	Rheumatism	Treated on Board	...
" 24	" Strathfillan "	Rosario	Accident	"	...
June 1	"	"	Tuberculosis	Removed to Pilton Hospital	Quarters Disinfected.
" 7	" Ben Lawers "	Oran	Heart	Died at Sea	2 Cases.
" 18	" Porthcawl "	Bona	Typhoid	Removed to City Hospital	Quarters Disinfected.
July 6	" Keelung "	Bombay	Chickenpox	Removed to City Hospital	"
Aug. 6	" Gullfoss "	Copenhagen	Scarlet Fever	"	...
Oct. 8	" Ibis "	Lisbon	Accident	Treated on Board	...
" 11	" Balmaha "	Arzew.	Dysentery	Removed to City Hospital	Quarters Disinfected.
Nov. 26	" Cornelia Maersk "	Leningrad	Rheumatism	Treated on Board	...
Dec. 13	" Glaciere "	Shanghai	Cold	"	2 Cases.
" 18	" Wentworth "	San Francisco	Indigestion	"	...
" 20	" Antonious Vrondissis "	Alexandria	Cold	"	2 Cases.
" 31	" Maastroom "	Rotterdam	"	"	...

During the year 1,026 alien passengers arrived at the Port, and of these 102 were medically examined at the request of H.M. Alien Immigration Officer.

The alien passengers were classed as follows :—

resident turning R.R.)	In Transit (I.T.)	Visitors on Holiday, Tourists, &c. V.	Business Visitors B.V.	Diplomats and persons on Foreign Government Mission (D.P.)	Seamen (S.)	Seamen under contract to join ship in British waters (C.S.)	Ministry of Labour Permit (M.L.)	Aliens coming to settle not holding M.L. permit	Total.
60	203	470	167	3	45	23	42	13	1026

The statistical data in this report have been kindly supplied by the Port Sanitary and Immigration Officers, who have always given most helpful assistance in matters pertaining to their branches of work.

In conclusion, it has to be recorded that placards in connection with Venereal Disease are posted in selected places about the Docks. These have been printed in English, Norwegian, Dutch and German, and are for the benefit of dockers and sailors of different nationalities. The notices draw attention to the existence and location of the Seamen's Dispensary at the Shore where skilled treatment is available.

I have the honour to be, Sir,

Your obedient Servant,

A. M. M. GRIERSON, M.D., D.P.H.

FACTORY AND WORKSHOP ACTS.

WORKSHOPS.

Certain duties are required to be carried out by the Local Authority in regard to Factories and Workshops in addition to those carried out by the Inspectors of the Home Office. The Tabular statements given on pages 89-90 show the nature and amount of work performed during the year by the Inspector acting for the Local Authority under the Medical Officer of Health. These statements are in addition to, and supplement, the Table giving particulars of the administration of the Factory and Workshop Act, 1901, which is annually forwarded to the Home Office.

In previous Reports mention has been made of a new Factories Bill, but on account of the coal dispute in 1926 and the abnormal conditions which have prevailed during recent years, it was deemed inopportune to proceed with this proposed new legislation.

Bye-laws with regard to means of escape from fire in works in which not more than 40 persons are employed were made on 26th July 1928, by the Lord Provost, Magistrates, and Council of the City of Edinburgh, being the Local Authority under the Factory and Workshop Act, 1901, and the Public Health (Scotland) Act, 1897. These Bye-laws were duly confirmed by the Scottish Board of Health on 14th December 1928.

The general conditions of the past few years, especially as regards compliance with the duties of limewashing walls and ceilings, have been well maintained, and in some instances notably improved. Several cases of failure to limewash are attributed to the high cost of the work, together with the necessity for exercising strict economy during a period of slack trade.

A matter which calls for comment is the cleansing of Floors, Windows, and Workbenches. During the year under review no less than 62 instances of neglect of this duty were recorded. This is considerably in excess of former years. Accumulations of rubbish are found in corners of workrooms and staircases. Undoubtedly much of this is due to the storage of materials and even fuel in workshops, the overcrowding of machinery, and the practice of allowing scrap of all kinds to litter the floors through the absence of proper receptacles. There is no comparison between the high standard usually met with in large retail shops where the floors are regularly washed and disinfected, and the low standard found in factories and workshops. This is probably due to the fact that in retail shops cleaners are engaged for that purpose, while in workshops it is a general custom to expect the workers themselves to clean the floors. The workers are becoming disinclined to undertake this cleaning in addition to their regular work, and occupiers are gradually having to engage a staff of cleaners for the purpose. Where occupiers have given attention to this matter, and pride themselves in maintaining a high standard of cleanliness, excellent results are obtained.

In regard to Section 61 of the Factory and Workshop Act, 1901, whereby it is enacted that no woman or girl shall be employed within a factory or workshop within four weeks after she has given birth to a child, no instance has been reported by the Maternity and Child Welfare Health Visitors that women are so employed in Edinburgh.

B A K E H O U S E S .

The large factory baker who turns out thousands of loaves per hour sells his bread in wholesale quantities to retailers within easy reach of his bakery, but many of these large firms own or control confectionery shops, cafes, and similar retail establishments for the sale of bread, cakes, and confectionery. The wholesale distribution of cakes and confectionery is already conducted over a very wide radius, and some firms now operate and distribute all over the country. It is quite possible that the distribution of bread will eventually follow the lines of the wholesale distribution of cakes and confectionery. At the moment the large factory bakers appear to be applying their resources in the direction of installing larger travelling ovens, buying improved equipment such as high speed mechanical mixers, and extending their premises with a view to dealing with an output beyond their present capacity.

In regard to Underground Bakehouses, it is satisfactory to record that there has been a gradual but marked decline in the use of such premises.

Under the Factory and Workshop Act, 1901, 149 Underground Bakehouses were originally certified as suitable by the Local Authority. At this date there are 69 such premises in occupation in the City, and this figure includes 8 Underground Bakehouses in the Leith District which was included in the Amalgamation Scheme of 1920.

The reduction in the number of underground bakehouses has been caused chiefly by small bakers going out of business in the face of competition by larger firms, and the centralisation of baking in factories provided with modern baking appliances. In a few instances bakehouses have been closed owing to the premises having been acquired and used for other purposes.

Towards the close of 1928 an underground bakehouse was discovered in occupation in which working operations had only been carried on for four days. The premises had not been certified by the Local Authority as suitable for the purpose of a bakehouse, and the use thereof constituted illegal occupation of an underground bakehouse. The occupier was instructed to discontinue work in the premises, and to apply for sanction from the Local Authority to resume the use of the premises.

An application was received asking permission to use the apartment underneath the shop as a kitchen for cooking meats and making pies. The application, along with a report by the Medical Officer of Health, was thereafter considered by the Public Health Committee, and it was agreed, subject to certain improvements being made, to grant the consent required under Section 101 of the Factory and Workshop Act, 1901, and Section 66 of the Edinburgh Corporation (Streets, Buildings and Sewers) Order, 1926.

Isolated cases of the baking of small cakes, etc., in dwelling-houses occasionally come to the notice of the Department. Two such instances occurred during 1928. A gas cooker is generally used in the kitchen or scullery of a dwelling-house, and the food is retailed from door to door. Occupiers of bakeries and shops are naturally very bitter against this kind of opposition, being as they are, heavily rated and subject to regular inspection of their premises. The circumstances surrounding the two cases were chiefly economic, and on the complaints being investigated, the practice was discontinued.

By the Scottish Board of Health (Factories and Workshops Transfer of Powers) Order, 1921, the special sections of the Factory Act relating to Bakehouses are now entirely under the administration of the Local Authority. In 25 instances the statutory period for limewashing was exceeded, but on the serving of notice compliance was secured in every case.

As a result of an outcry with regard to the prevalence of Dermatitis, and with a view to limiting the incidence of the disease in Breadmaking and Flour Confectionery, a Welfare Order came into force on 1st May 1927, requiring the provision of washing facilities in all premises carrying on this trade. Following this Welfare Order for Bakeries, another Order applicable to and designed to prevent Dermatitis amongst workers employed in the icing, creaming, and filling of biscuits and wafers, came into force on 1st December 1927. It is on almost identical lines to that issued in respect of Bakehouses. Apart from individual susceptibility, one cannot lay too much stress upon personal cleanliness as being of importance in the prevention of Industrial Dermatitis. The provision of good washing facilities is a *sine qua non* in all premises where materials are handled which may give rise to Dermatitis.

Total Number of Inspections of Factories and Workshops	1,785
Number of Written Notices served	189
Complaints received from H.M. Inspector of Factories, as remediable under the Public Health Act, but not under the Factory Act	3
Complaints <i>re</i> Sanitary Accommodation (Factories and Workshops); Intimations received by Local Authority in order that the Council may have opportunity of enforcing any additional conditions under Local Acts—Work carried out, inspected and reported upon	4
Notices received from H.M. Inspector of Factories (for the information of Local Authority) <i>re</i> Bakehouses—Scottish Board of Health (Factories and Workshops Transfer of Powers) Order, 1921	1
Miscellaneous Complaints :—	
Received from other Departments	4
Anonymous	7
Received from Public	11
	— 22
Matters referred to H.M. Inspector of Factories for his attention	2
Number of Notices of Occupation of Workshops received from H.M. District Inspector of Factories for the year 1928	39

HOME WORK—LIST OF OUTWORKERS.

	Feb. 1928.	Aug. 1928.
Number of Lists received	35	38
Number of addresses of Outworkers in Edinburgh	94	96
Number of addresses transmitted to other Authorities	27	24
Number of addresses received from other Authorities	1	3
Actual number of Outworkers on Register	74	70

CLASSES OF WORK ENGAGED IN BY OUTWORKERS IN EDINBURGH.

- (1) Making, altering, repairing, etc., of Wearing Apparel.
- (2) Making up, finishing, and repairing of Table Linen, etc.
- (3) Making of Baskets.
- (4) Rug Making.

TABLE showing the distribution of Workshops throughout the City, the neglects and defaults found and remedied, and the general sanitary improvements in 1928.

TABLE showing the distribution of Bakehouses throughout the City, the irregularities and defects found and remedied, and the general improvements in 1928.

SANITARY DEPARTMENT,
 PUBLIC HEALTH CHAMBERS,
 JOHNSTON TERRACE,
 EDINBURGH, *May* 1929.

To

*The Department of Health for Scotland and
 The Right Honourable the Lord Provost,
 Magistrates, and Council of the City of Edinburgh.*

MY LORD PROVOST AND GENTLEMEN,

I have the honour to present the Annual Report of the Sanitary Department of the City of Edinburgh for the year 1928.

The year under review completes the third decade of this Department's existence. Since its inauguration thirty years ago the volume of work undertaken has steadily grown in accord with the rapid spread of the City and the ever increasing flow of legislation.

The magnitude of the task confronting the Department in its early years, and the resolute manner in which it has been carried through in face of great difficulties, can only be gleaned and adequately appreciated by comparing the conditions of the City to-day with those prior to the establishment of the Department and by referring to the statistical achievements.

Only some sixty years ago the houses in the congested areas were without water supplies and still dependent upon public wells. A harrowing description of the housing conditions of the poor was given by an Edinburgh journalist in 1867, who stated that "much less is known of the closes of Edinburgh than of many parts of the interior of Africa," and that "the internal arrangements of the Red Indian's wig-wam are much more familiar to the Christian public than is the condition of the hovels in which many of our town's people live." Closes, stairs, passages and houses are described as being in a shocking state and accumulations of filth, ashes, etc., are said to have been found under beds, behind doors and in corners of rooms, but in several cases a desire to be clean and tidy is given expression by the evidence of white-washed fireplaces. It is considered "absurd to expect that in every house water and a watercloset could be introduced, as many of the tenements are quite unsuited for them," and a modest plea is added that "surely it would be possible to have one well at least for each court and proper receptacles for filth outside the houses." Some houses are described as being devoid of windows, and in others the doors are panelled with glass to borrow light. One house is described as a "miserable den." The furniture consists of a small table, a teapot, a few pieces of crockery, a stone by the fireplace—the only "chair or stool" to sit upon, a few rags lying on the causewayed floor in the corner—the only bed in the place; whilst an open channel crosses the floor draining water from an undiscovered source. Washing and cinder-gathering brings in an income of three to four shillings per week out of which ninepence per week is absorbed in rent, and the occupants consist of a woman and two boys eight and ten years respectively. From the structure of the apartment the journalist concludes that the place must have been at one time a byre, but not being sufficiently lighted and ventilated for cattle had been let for a dwelling-house, and, visualising the economic problem facing the advent of the sanitarian, asks what is the use of a regulation for the washing and sweeping of common stairs for a "land" of six or seven storeys in which there is not a broom from top to bottom.

Dr. Littlejohn, the City's first Medical Officer of Health, early set himself the task of surveying the City, and in his report of 1865 stated that "the peculiar structure of the

"ridge of the Old Town, consisting of a central street of great length, with narrow "closes or passages between elevated dwellings passing off from it in great numbers, "helps to account for many peculiarities which have excited the astonishment "of strangers. The appearance presented by our chief street has been the favourite "subject of comment by travellers, and the short-comings of Edinburgh, as presented "in the Old Town, are almost better known than those of any other capital. At this "we have no reason to complain, although some measure of injustice attends the vivid "description of travellers. A city cannot have its social and sanitary disadvantages "too narrowly exposed ; for the greater the amount of public attention that is directed "to them, the more likely are the citizens to be roused to remedy or remove them . . . "Our closes are objects of historical interest and every year are closely inspected by "thousands of strangers, but, wherever you have a dense population of the poorest "class, it is impossible, under the best sanitary regulations, to effect a great amount "of cleanliness. Squalor and filth meet you at every step. This is as true of London, "Dublin and Glasgow, as of the rest of the large towns in the Empire. But the track "of the tourist in these places does not lie in the direction of poverty and wretchedness. "Hence it is not to be wondered that the visitor after inspecting Holyrood, when he "walks to the Castle sees Edinburgh poverty and Edinburgh vice in its most repulsive "form. At every step therefore, poverty is met and is justly made the subject of remark. "In Edinburgh the houses are the highest in the world and the most densely peopled. "The stairs leading to the various flats have been aptly likened to upright streets, so "numerous are the inhabitants that are met with on every landing. The building feus "are perpetual and the houses are made as if they were intended to last as long."

Illuminating Tables were given of tenements 6 and 8 storeys high, of which the following is an example :—

	Rooms.	Families.	Children under 5.	Adults.	Total Persons.	Sinks.	Water Closets.
1st Flat . . .	12	12	10	39	49		
2nd Flat . . .	11	11	14	40	54		
3rd Flat . . .	12	12	10	45	55	Nil.	Nil.
4th Flat . . .	12	12	11	45	56		
5th Flat . . .	12	9	6	28	34		
	59	56	51	197	248		

A vast improvement has indeed been effected upon the conditions in the congested areas. Vice, poverty and wretchedness are less marked, whilst many sanitary improvements have been effected and the standard of cleanliness has steadily risen. Considering the great economic, educational and other disadvantages under which the people in those districts labour, such as unsatisfactory housing accommodation lacking in proper washing facilities and hot water supplies, the standard of cleanliness prevailing generally at present is one which reflects the greatest credit upon the occupants.

The densely populated closes of former days have been gradually opened up by the removal of many of the dark and uninhabitable backlands, and over the whole of the areas water supply and sanitary conveniences have been gradually introduced, not only into the individual properties, as was earlier suggested, but into the flats and in many cases the individual houses. This has been a great boon to the occupiers and has contributed largely to the improved conditions of cleanliness in the dwellings and their surroundings.

The number of sanitary improvements effected by the Department since its inception thirty years ago, total, in all, well over half a million. These include (1) the introduction, repair, renewal, ventilation or cleansing of 14,000 drains, soil, sink-waste and rain-water pipes ; (2) the introduction, removal, substitution, repair, cleansing, etc., of 18,000 sinks, tubs, wash-hand basins, baths, etc., and 67,000 waterclosets and urinals ; (3) the painting of 47,000 common staircases and W.C. apartments ; (4) the removal, introduction, renewal, cleansing and protection of 74,000 cisterns ; (5) the cleansing of 94,000 dirty stairs and passages ; (6) the removal of 186,000 other nuisances ; and (7) the total closure of over 5,000 uninhabitable houses.

All this has not been accomplished without much labour and expense and the thanks of the Department are tendered to those property owners, agents, factors and tenants who have willingly co-operated with and generously met the requirements of the Department in its effort to improve the conditions.

H O U S I N G.

Improvement Schemes.—The greatest contribution yet made towards the betterment of the residents in the congested districts, bringing within their compass a higher standard of hygiene and physical and moral well-being, is the progressive housing policy of the Corporation at present being undertaken and directed towards the abolition of the slums by means of Improvement Schemes and the re-housing of the occupiers in more congenial and hygienic surroundings. By these means the people are being furnished with dwellings of a greatly advanced type, ensuring free access of light and circulation of air, pure water supplies, improved facilities for heating and cooking, artificial lighting by gas or electricity, scullery, and bathroom with hot-water supply, larder, coal and press accommodation, modern sanitary appliances, and clothes-drying facilities. The beneficial effects of this transformation in housing are already observable, and, as they are multiplied, will have a tremendous influence on the health and well-being of the whole City.

The following Table shows the number of houses, and the number of persons occupying the houses, dealt with under the various improvement schemes since 1923 :—

Scheme.	Year.	No. of Houses.	No. of Persons.
Cowgate-Grassmarket Scheme . . .	1923	630	1,429
Leith Scheme	1924	678	2,444
Canongate-Corstorphine Scheme .	1927	293	556
St. Leonard's (First Section) Scheme	1927	758	2,619
Totals . . .		2,359	7,048

Very good progress has been made in connection with these Improvement Schemes.

All the houses in the Leith Scheme have been vacated by transferring the occupiers to Lochend and elsewhere, and the work of demolishing the properties is proceeding apace. Out of a total of 70 tenements included in the Scheme, 49 have been razed and 4 others are in course of demolition.

In the Cowgate-Grassmarket Scheme only 8 houses remain occupied, 23 properties have been demolished, 2 have been reconstructed, and 2 new tenements have been built on the sites of demolished properties.

The tenants transferred from those two areas to the new houses continue to show considerable improvement in their domestic conditions. Despite the regrettable statements that have been made to the contrary, the majority of the occupiers have responded well to the new surroundings and have shown that these advantages, aided by supervision, are having a marked effect on their habits. It is found that as other dispossessed tenants are moved into these areas, they are not long in forming new habits corresponding with the better conditions. A small number only, namely, about 30, out of a total of about 600, of those transferred tenants, have continued to show careless inclinations. A check had to be kept on the attempts at sub-letting which frequently came under notice, and during the year 41 instances of this had to be dealt with.

In the Canongate-Corstorphine, etc., Scheme, accommodation has been found for the occupants of 92 houses out of the 147 occupied houses included in the Scheme and 11 properties have been demolished.

The occupants of 174 houses have been transferred, and the houses closed, in the St. Leonard's (First Section) Scheme. The tenants who have been transferred to Prestonfield are also appreciating their new homes and are responding very well to the improved surroundings.

Although no new Improvement Schemes were proceeded with during the year, a considerable amount of survey work in connection with proposed schemes has been carried through.

Uninhabitable Houses.—A commencement was made during the year with the inspection of houses, apart from those in Improvement Schemes, in terms of the Housing (Inspection of District) Regulations (Scotland), 1928. At the end of the year 1,034 houses had been inspected and of that number 971 were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation. Representations were made to the Local Authority in connection with 57 houses and Closing Orders were made.

These figures, of course, represent only a proportion of the uninhabitable properties in the City, but they further emphasise the need for some comprehensive scheme, apart from Improvement Schemes, to remedy the conditions in isolated properties. Many of the uninhabitable houses form part of otherwise good tenemental properties and are very often area or attic houses.

As the majority of the tenants of these houses are of the working-classes, their inability to pay higher rents for better houses has to be kept in view. It has been possible in some cases to transfer a number of the occupiers to the re-housing areas at rents similar to those payable by dispossessed tenants, but this has only touched the fringe of the problem and if the matter is to be tackled successfully a large number of houses will require to be reserved for this purpose.

In a reference to this problem in the report of last year, it was stated that after survey no less than 5,035 houses could be classified as unfit for human habitation. While it will be possible to deal with a considerable number of the aforementioned houses by Improvement Schemes, it remains to be emphasised that a large proportion will not be affected by those Schemes.

Housing Repairs.—A commencement was also made during the year to have improvements and repairs carried out in working-class houses by taking advantage of the powers conferred by Section 3 of the Housing (Scotland) Act, 1925. This section requires owners to make houses in all respects reasonably fit for human habitation. Hitherto, improvements in houses, such as the introduction of sanitary appliances and the execution of certain repairs, were effected under the provisions of the Public Health Act

or the local statutes. The Housing Act, however, enables the Local Authority to deal in a more comprehensive manner with defects, especially with regard to disrepair and the putting of the houses into a habitable condition, and the results are much more satisfactory. One property dealt with during the year, for example, was entirely reconditioned, including the introduction of waterclosets and sinks, new drains, removal of dampness of floors and walls, and a thorough overhauling in respect of repairs, repainting, etc. A large amount of repair work was also effected at other properties.

The operation of the section, however, is not free from difficulty, especially in the case of tenemental property. No power is given to alter the existing mode of letting, and without such alteration it is impossible to deal satisfactorily with conditions where the houses are of the back-to-back type, or where there is over-subdivision, or where there is insufficient watercloset accommodation and the provision of this accommodation requires the use of a room or part of a room of a house. These conditions obtain in many tenements in the City and little progress can be made in rendering the houses reasonably habitable until the Act is amended to provide for any necessary combination of houses and the alteration of existing lets.

NUISANCES AND SANITARY IMPROVEMENTS.

Continued progress was made during the year in improving the sanitary arrangements of those houses which were inadequately provided with suitable conveniences. Thus, 33 new waterclosets were introduced ; 135 inadequate and faulty waterclosets were replaced by those of modern type ; and 369 were improved or repaired ; 18 new sinks and water supply were introduced where none previously existed ; 136 corroded iron sinks were replaced by earthenware sinks ; and repairs to the existing woodwork, etc., were effected in 297 instances. Renewals or repairs of drainage were carried out at 30 properties. In 29 instances the soil pipes, in 120 instances the wastepipes, and in 91 instances the rain-water conductors were repaired or renewed.

No less than 170 choked waterclosets, 76 choked sinks, wash tubs, etc., and 578 choked drains were brought to the notice of the parties responsible and cleared. These were mostly avoidable and were due to carelessness on the part of the tenants in the use of the sanitary conveniences.

The Table shewing the number of sanitary conveniences used in common has been brought up to date as follows :—

	Number used in common by the Tenants of											Total Number of Conveniences.	Total Number of Houses.
	2 Houses.	3 Houses.	4 Houses.	5 Houses.	6 Houses.	7 Houses.	8 Houses.	9 Houses.	10 Houses.	16 Houses.			
Common Water-closets	4,539	1,512	808	133	53	4	6	2	...	...	7,057	17,923
Common Sinks . . .	370	342	217	59	21	5	6	...	...	...	1,020	3,138
Number of houses without Sink or water supply within the house and without the use of a common Sink . . .	...	...	...	...	...	...	...	...	...	...	...	836
Dry Closets . . .	123	9	6	2	...	...	...	...	...	...	140	307
Privy Middens . . .	...	...	...	...	...	...	1	...	...	8	9	136
Washpits . . .	22	8	9	5	6	1	2	1	2	...	56	217	

There still remain 367 dry closets (inclusive of the number referred to in the above Table as being used in common) and 9 privy middens. There is a decrease of 9 dry

closets as compared with last year. These conveniences are mostly situated on the outskirts of the City in agricultural districts where sewers have not been provided. On account of the demolition of properties under the various Housing Improvement Schemes, and improvements effected at other properties, the number of houses where W.C.'s were used in common was reduced by 257, and the number where sinks were used in common was reduced by 77. The number of houses without sink or water supply within the house and without the use of a common sink has been reduced by 28.

In the course of inspection of dwelling-houses, the floors and bedding in 231 instances were found in a dirty condition and the tenants were required to carry out the necessary cleansing. In 369 houses the walls and ceilings required distempering, papering or painting.

Dampness in 80 houses was abated. Defective or obstructed vents gave rise to complaints of smoke in houses on 131 occasions, and escapes of gas, dead vermin, etc., caused nuisance in 88 houses. Complaints of flooding in 22 cases were found to be due to defects on flats above.

Other defects of structure in dwelling-houses required considerable improvements including repairs to 257 floors, hearths, doors, partitions, etc., 299 walls and ceilings, 334 windows and sky-lights, 86 defective roofs, 66 grates or ranges, and 30 coal bunkers.

Nuisance committed in common stairs and back greens by dogs and cats was complained of on 118 occasions and objection was made by neighbours on 38 occasions to the keeping of animals or poultry within or in close proximity to dwellings. Better supervision on the part of owners of domestic animals would greatly lessen the nuisance not only on stairs but also on the public streets.

The routine inspection of common stairs resulted in stair painting being undertaken by the owners of 1,453 properties after the service of notices from the Department. The sweeping and washing of stairs and passages in tenemental properties was found in 1,218 instances to have been neglected by the tenants and insistence had to be made on the regulations being complied with.

Although there has been steady improvement in domestic cleanliness over a period of years, the conditions in some quarters require constant supervision, particularly in the more densely populated tenements. Unfortunately the practice of casting garbage out of windows is still in evidence, and back courts, areas, and roofs of out-buildings are frequently found in a dirty condition. Refuse, which should have been taken to the street in the early morning, is also often found deposited in cellars, vacant houses and other odd corners. In all, 1,019 accumulations of rubbish, garbage and filth in those places had to be removed either by the owners or the Cleansing Department. An occupier, after repeated requests to have refuse removed from the dwelling and to have the house cleaned, was prosecuted and fined 10s. or 5 days imprisonment.

O V E R C R O W D I N G .

It is pleasing to note a reduction in the number of recorded cases of overcrowded houses. Two years ago 1,640 cases of overcrowding came to the notice of the Department and a year ago the number was reduced to 1,542, while for the year under report the number fell to 1,323. The reduction was partly due to the progress made with Improvement Schemes and partly to securing larger houses in other localities.

While much of the overcrowding was caused by the size of the family in residence, in 146 cases it was either due to or aggravated by the keeping of lodgers or the sub-letting of rooms to other families.

Of the 1,323 overcrowded houses found, 867 were of one apartment, 426 of 2 apartments and 30 of 3 apartments and over.

In the one-apartment houses the overcrowding in 273 instances was by one person, in 325 by 2 persons, in 199 by 3 persons and in 106 instances by 4 or more persons in excess of the number allowed.

In the two-apartment houses the overcrowding in 121 instances was by one person, in 124 by 2 persons, in 77 by 3 persons, and in 104 by 4 or more persons over the number allowed.

The three-apartment houses were in 3 instances occupied by 1 person in excess, 8 by 2 persons, 9 by 3 persons and 10 by 4 or more persons.

In the one-apartment overcrowded houses as many as 8 to 11 persons were found in residence, and in the two and three-apartment houses as many as 10 and in one case 19 persons were found.

The following are examples of the conditions that were found :—

(a) In the south side of the City a sublet room, suitable for one person only, was occupied by a man, his wife, and family, namely, 4 daughters aged 19, 14, 5 and 4 years and 2 sons aged 17 and 7 years, making a total of 8 persons.

(b) A small one-apartment house in the north side of the City, suitable for 2 persons, was found to be occupied by the tenant, his wife and family, namely, 1 daughter aged 6 years, and 5 sons whose ages ranged from 6 months to 18 years, making a total of 8 persons.

(c) A one-apartment house in Leith, with accommodation for 4 persons was found to be occupied by the tenant and his family, namely, 5 daughters, from 2 to 12 years of age, and 5 sons from 4 months to 15 years of age, or 11 persons in all.

(d) A three-apartment house in Leith, with accommodation for 9 persons, was occupied by the tenant, his wife and family of 6 daughters and 2 sons, and also by a lodger, his wife and family of 3 daughters and 4 sons, making a total of 19 persons.

TICKETED HOUSES.

These houses, as well as the other houses that are unticketed in the same tenements, are visited periodically by the women sanitary inspectors in order to see that the general cleanliness is maintained of the interiors, including the bedding and clothing, as well as the stairs, passages and courts. It is gratifying to note the steady improvement that is being effected in the conditions. Here and there a defaulter is found and although occasionally a severe reprimand has to be given, a word to the householder is usually all that is necessary in having the cleanliness attended to. Although the main purpose in visiting these houses is to see that they are maintained in a cleanly state and free from overcrowding, opportunities are often afforded of giving help, advice and encouragement, which is always deeply appreciated.

Altogether 19,591 visits were made ; 175 houses were found dirty and the bedding, etc., of 149 houses was found in a dirty condition.

VERMINOUS CONDITIONS.

A special section has been formed in the Department for dealing with various forms of verminous conditions.

By arrangement with the Education Authority an Inspector of this Department visits the homes of verminous and dirty children attending the schools in the City. During the year 132 cases involving 207 children came under his supervision, and the action taken resulted in the disinfection of 75 sets of bedding and the bathing of 114 children at the City Disinfecting Station.

In addition, the Department co-operated with owners and occupiers in other cases of vermin-infested houses and 107 houses were dealt with, requiring the removal of 62 sets of bedding to the City disinfector.

Where there was any suspicion of the presence of vermin in the houses in the slum areas, opportunity was taken to have the household effects in such instances treated before the removal of the dispossessed tenants to the new houses.

RAT DESTRUCTION.

The extermination of the rat pest again received constant attention. In all, 414 premises were found to be infested. Information and advice as to the best means of prevention, destruction and rat-proofing were freely given to the owners or occupiers concerned, and as a result 170 premises were cleared of the vermin.

The attention of the Department was frequently called to the presence of rats in properties that were being demolished and assistance was given by laying down poisoned baits while the work proceeded. This helped to prevent the escape of the rats to other premises. Disused cellar premises and the banks of streams, which were found to be infested, also received attention. Altogether over 6,000 baits were laid down during the year.

Investigation into a complaint of the presence of rats in a tenement house showed that the rats were coming from the drains. It was found necessary to renew the drains, the cost amounting to £140. In another case, where several tenements in a street were infested, it was necessary to renew the sewer.

As in former years, the Local Authority co-operated with the Scottish Board of Agriculture in the rat week held throughout the country from 1st to 6th April.

INCREASE OF RENT, Etc., ACTS.

Ten applications were received from occupiers of houses for certificates in terms of the Rent and Mortgage Interest (Restrictions) Acts, 1920-23, that their houses were not in all respects in a reasonable state of repair.

In 4 of the houses the disrepair was such that certificates could be granted, but in 6 of the houses the extent of the disrepair did not warrant the granting of certificates.

Upon the owners being given notice of the items of disrepair in the respective houses repairs were effected.

COMMON LODGING HOUSES.

There are 18 common lodging houses in the City with accommodation for 2,218 lodgers. Of that number 15 houses are used for male lodgers and 3 are reserved for women lodgers. All the lodging houses are privately owned with the exception of one in Leith owned by the Corporation.

During the year the registration of one room in one of the Leith lodging houses and the attic flat in one of the Edinburgh houses was discontinued.

Visits were regularly paid by the Inspectors, both by day and by night, to ascertain if the Bye-laws were being observed.

FARMED-OUT HOUSES AND HOUSES LET-IN-LODGINGS.

The farmed-out houses in the City number 98 with accommodation for 359 persons. All these houses were visited regularly in order to ascertain if the Bye-laws were being observed.

During the year 22 houses with accommodation for 92 persons were removed from the Register. The houses were vacated and have not since been re-occupied.

The houses let-in-lodgings in the City number 21, with accommodation for 716 persons.

OFFENSIVE TRADES.

The following is a list of the Offensive Trades carried on in the City :—3 tanners, 6 hide and skin factors, 1 gut scraper, 1 glue and size maker, 2 skinners, 1 soap boiler, 3 tripe cleaners, 6 manure manufacturers, 2 tallow meltters, and 1 fish meal manufacturer, making a total of 26.

The works were inspected frequently in order to see that the requirements of the Bye-laws were being attended to.

ACCOMMODATION FOR SEASONAL WORKERS.

The number of farmers employing seasonal workers last summer was 20, and the number of workers was approximately 485. Visits were paid both before and during occupation of the special accommodation to see that the Bye-laws were being observed.

PLACES OF PUBLIC ENTERTAINMENT.

The standard of cleanliness and sanitation in the various picture houses, theatres and other places of amusement was found, as a rule, to be quite satisfactory. Frequent visits were paid by the Inspectors in the day time and in one or two instances the attention of the management was called to the condition of the floors and seats. These matters were immediately attended to.

During the winter months the Inspectors also visited those places at night whilst the entertainments were in progress and made tests to ascertain the condition of the atmosphere. These tests were made by means of the Kata-thermometer, an instrument designed to ascertain the cooling power of the atmosphere and to indicate the velocity of air currents. By this means, it is possible to estimate very accurately the condition of the atmosphere directly affecting the comfort of the persons attending.

Twenty-two picture houses and theatres were visited in this connection and 70 tests were made. In the majority of cases the conditions were found to be satisfactory and in those that did not come up to the standard immediate steps were taken by the management to remedy matters. The causes of the insanitary conditions were found to be either the temporary break-down of the means of ventilation or failure to use those means properly. The opportunity was taken to impress upon the management the necessity for keeping the fans going during the times the halls were occupied with the necessary modifications to suit the outside atmospheric conditions.

It is now realised that the volume of tobacco smoke inhaled in public places is positively harmful. The difference in the conditions found in halls where smoking is prohibited and in buildings where it is permitted is certainly most marked. Although in many of the picture houses and theatres where smoking is allowed the means provided for the ingress and egress of air are sufficient for ordinary ventilation, they are incapable of completely removing the tobacco smoke. Architects of the modern super-cinemas are now taking steps to provide for the rapid withdrawal of these smoke clouds from the auditorium.

SMOKE ABATEMENT.

Continued progress has been made in the efforts towards smoke abatement. Observations were made daily by the Inspectors, and when serious emission of smoke occurred, the factories and works were visited and the firemen instructed and warned when necessary. Substantial improvements have been effected at various places and these have been the means, in some cases, of preventing smoke altogether, and in others of reducing it very considerably.

With the provision of modern plant it is not difficult to prevent the emission of excessive smoke from steam boiler furnaces, but at times the initial cost in introducing smoke-preventing apparatus proves an obstacle. When a new boiler plant is constructed, however, it has become usual to provide smoke-consuming plant at the outset. Two recent instances may be mentioned, namely, the Astley-Ainslie Institute, Grange Loan, where the "Underfeed" stoker system is in operation on two Lancashire boilers, and the New University Buildings, West Mains Road, where three Lancashire boilers are also fitted with the "Underfeed" plant. This system, which comprises mechanical stoking, together with auxiliary draught provided by a motor-driven fan, ensures a practically smokeless chimney.

Apart from the "Underfeed" stoker there have been numerous instances where smoke-consuming plant of a cheaper type has been adopted with success. This apparatus usually provides for the admission of auxiliary air at the back of the firegrate and behind the back ridge of the furnace.

Continued attention has been given to the engines at the various railway stations, locomotive depots, shunting yards, etc. The Superintendents at these depots have posted up warning notices and the instructions given have been generally adhered to. Any infringement noted, however, is immediately reported and the offender dealt with.

Attention has also been paid to the steam wagons travelling along the streets of the City. Semi-anthracite fuel is largely used for stoking those steam wagons, and as all the local drivers have been made aware of the necessity for exercising every care, it is rare to find any excessive smoke discharged from those vehicles.

The chimneys of the various hotels, restaurants, clubs, shops, banks, offices, etc., in the centre of the City have also been kept under observation, and where the "Robin Hood" or similar type of central heating furnace is in use, coke or anthracite has been recommended in place of the bituminous nuts formerly used.

As regards the smoke from domestic chimneys, which in Edinburgh remains the greatest contributor to the air pollution problem, it is evident that the solution lies in the direction of the greater use of gas and electricity and the production of a smokeless fuel at reasonable cost. Hopes were expressed at the recent Smoke Abatement Conference held in Edinburgh that this desirable consummation will not be long delayed.

Measurement of the solid impurities in the air of the City was continued by the use of three standard gauges—one at Princes Street Gardens, one at Leith Links and one at the Usher Institute. A study of the figures for a number of years shows that the amount of soot and dust fluctuates from month to month according to the weather, presence of fog, etc., and increases directly with the number of rainy days.

The following Table shows the results at the various places from month to month :—

Month.	Station.	Millimetres of Rainfall.	Total Insoluble Matter.	Total Soluble Matter.	Total Solids.	Total Solids.
			Metric Tons per Sq. Kilometre.	Metric Tons per Sq. Kilometre.	Metric Tons per Sq. Kilometre.	English Tons per Sq. Mile.
January .	Leith Links . .	Bottle	broken.	...	...	...
	Usher Institute . .	85.79	2.49	3.58	6.09	15.59
	W. Princes St. Gds.	85.93	5.14	3.09	8.24	21.09
February .	Leith Links . .	40.17	1.53	2.25	3.78	9.68
	Usher Institute . .	60.29	2.15	4.10	6.25	16.00
	W. Princes St. Gds.	60.29	3.58	3.74	7.32	18.74
March .	Leith Links . .	41.03	2.54	2.64	5.18	13.26
	Usher Institute . .	41.90	2.70	3.26	5.96	15.26
	W. Princes St. Gds.	51.03	5.14	3.47	8.61	22.04
April .	Leith Links . .	11.98	3.51	1.58	5.09	13.05
	Usher Institute . .	12.43	2.87	7.24	10.11	25.88
	W. Princes St. Gds.	11.45	4.26	1.43	5.69	14.56
May .	Leith Links . .	39.75	5.23	3.57	8.80	22.53
	Usher Institute . .	34.43	7.47	2.33	9.80	25.08
	W. Princes St. Gds.	34.69	7.47	2.14	9.61	24.62
June .	Leith Links . .	114.81	5.26	4.59	9.85	25.21
	Usher Institute . .	107.87	4.14	4.53	8.67	22.20
	W. Princes St. Gds.	117.86	5.78	3.54	9.32	23.86
July .	Leith Links . .	41.70	3.49	1.16	4.65	11.90
	Usher Institute . .	44.14	2.68	3.25	5.93	15.18
	W. Princes St. Gds.	50.17	6.75	1.50	8.25	21.12
August .	Leith Links . .	119.54	3.94	4.78	8.72	22.32
	Usher Institute . .	88.29	3.38	2.82	6.20	15.87
	W. Princes St. Gds.	93.96	7.49	4.51	12.00	30.72
September	Leith Links . .	52.82	4.49	3.27	7.76	19.86
	Usher Institute . .	53.66	1.76	1.72	3.48	8.91
	W. Princes St. Gds.	55.28	5.48	2.44	7.92	20.27
October .	Leith Links . .	72.98	2.32	2.49	4.81	12.31
	Usher Institute . .	71.96	2.17	2.74	4.91	12.57
	W. Princes St. Gds.	72.83	6.14	2.92	9.06	23.20
November	Leith Links . .	58.6	2.05	2.59	4.64	11.88
	Usher Institute . .	66.56	1.88	3.06	4.94	12.65
	W. Princes St. Gds.	60.21	4.22	2.41	6.63	16.97
December	Leith Links . .	44.76	2.08	1.88	3.96	10.13
	Usher Institute . .	43.74	2.00	2.18	4.18	10.70
	W. Princes St. Gds.	50.9	4.97	2.54	7.51	19.22

WATER SUPPLY.

It is surprising to find how many citizens fail to appreciate the importance of a pure water supply. This failure is evident from the large number of cisterns which are allowed to become dirty. Cases were found where a good many years had elapsed since the cisterns were cleaned, and this state of affairs would no doubt have been allowed to continue had not the attention of the householders been called to the matter. Appar-

ently, as long as the water continues to come freely from the tap those citizens take little or no interest in this—which materially affects their well-being.

Edinburgh's water supply is excellent as regards quality, quantity, and distribution, but the aim of expensive modern water equipment is frustrated if the cisterns within which the water for domestic and culinary purposes is contained are allowed to become foul.

It is therefore the duty of all householders to see that their cisterns are cleaned every six months.

FOOD HANDLING.

Although the legislation suggested in previous reports for increased supervision of all places where foodstuffs are prepared, stored and sold, has not yet been adopted, efforts have been made throughout the City to influence those engaged in food businesses to adopt hygienic principles in connection with food handling.

A survey is being made of all food shops with a view to the improvement of the general hygienic conditions.

There is also room for improvement in the care and protection of foodstuffs in many homes. In course of visiting houses foodstuffs have been observed on tables, etc., openly exposed all day to dust and contamination. Covered utensils, which can be obtained at very little cost, should be used as far as possible.

MILK SUPPLY.

The number of registered dairykeepers, including hawkers, at 1st January 1928 was 501. During the year, applications for registration in respect of 4 premises and 1 hawker were received and granted, while registration certificates referring to 14 dairy premises and 2 hawkers were cancelled, the sale of milk having been discontinued. The occupier of one dairy, which was provisionally registered last year, obtained more suitable premises and was fully registered. The total of 490 dairies, including hawkers, at the end of the year showed a reduction of 11.

The total approximate daily sale of milk was 25,158 gallons—equivalent to an average amount of about half-a-pint per person,—and of this amount 64 per cent. is sold in bottles. Although a proportion of the remainder is sold in bulk to institutions, there is still a considerable volume of milk passed on to the consumer by means of open vessels exposed to contamination. Every effort is being made to encourage the sale of milk in sealed containers, but it may become necessary, before long, to have this method insisted on.

There was, again, a gratifying increase in the sale of the special grades of milk. This was mainly due to a larger sale of Pasteurised milk. The amounts of these specially designated milks now sold daily within the City are 345 gallons of "Certified," 472 gallons of "Grade A (Tuberculin Tested)," 84 gallons of "Grade A," and 11,770 gallons of "Pasteurised," a total of 12,671 gallons, or about 50 per cent. of the total daily sale of milk.

The Local Authority has granted licences to 237 dealers for the sale of various grades of milk under the Milk (Special Designations) Order (Scotland), 1923, 87 being for "Certified," 50 for "Grade A (Tuberculin Tested)," 8 for "Grade A," and 92 for "Pasteurised." This is a decrease of 37 from the number for the previous year, probably due to the milk trade gradually passing into the hands of companies.

During the year a larger number of samples have been submitted for chemical examination under the above Order than in any previous year, and this applies also to each special grade of milk.

Altogether 230 samples were delivered to the City Analyst as compared with 194 last year.

These comprised 104 of "Certified," 74 of "Grade A (Tuberculin Tested)," 22 of "Grade A," and 30 of "Pasteurised" Milk.

A detailed statement is submitted showing the number of samples taken in each month of the year under the various designations, along with the average amount of butter fat found present:—

Date.	"Certified."		"Grade A (T.T.)"		"Grade A."		"Pasteurised."	
	No. of Samples.	Butter Fat. Per Cent.	No. of Samples.	Butter Fat. Per Cent.	No. of Samples.	Butter Fat. Per Cent.	No. of Samples.	Butter Fat. Per Cent.
January . .	9	4.17	7	3.91	2	3.65	2	3.59
February . .	9	4.03	7	3.82	2	4.36	1	3.41
March . .	9	4.12	4	4.09	2	5.38	3	3.61
April . .	11	3.93	10	3.91	2	3.74	3	3.61
May . .	7	4.09	8	3.79	2	3.96	2	3.34
June . .	9	3.83	5	3.71	2	3.97	3	3.53
July . .	9	3.78	8	4.22	2	3.93	3	3.53
August . .	6	3.99	3	4.13	2	4.35	1	3.73
September . .	9	3.89	6	4.01	2	4.10	3	3.70
October . .	9	4.25	6	4.16	2	4.00	3	3.68
November . .	9	4.02	5	4.14	1	3.85	3	3.68
December . .	8	4.21	5	4.36	1	3.83	3	4.56
Total . .	104	4.03	74	4.01	22	4.09	30	3.67

An examination of these results is very interesting as, in every month of the year, the average amount of butter fat is not only higher than the prescribed Government standard, but in most months represents a very considerable increase.

Taking an average over the whole year the amount of butter fat present in the three principal designations was as follows, viz., "Certified," 4.03 per cent.; "Grade A (Tuberculin Tested)," 4.01 per cent.; and "Grade A," 4.09 per cent. respectively.

SALE OF FOOD AND DRUGS ACTS.

The number of samples procured for analysis during the year was 1,862, which is at the rate of 4.34 per thousand of the population. They comprised 717 statutory samples and 1,145 test samples, the former being the largest number yet taken in any year, and representing a variety of 62 articles of food.

The City Analyst reported on 633, or 88 per cent., as being in accordance with the statutory requirements, and 84, or 12 per cent., as not being up to the standard.

Milk.—187 Statutory samples were submitted to the Analyst for chemical examination. In addition, 130 were procured at shops and railway stations for bacteriological analysis by the Veterinary Department, the results of which appear in the Annual Report of the Chief Veterinary Inspector.

Of the 187 statutory samples, the Analyst reported 145 as being in accordance with the Sale of Milk Regulations and 42 as adulterated either by the abstraction of milk fat or by the addition of water or both.

Although the number of adulterated samples appears large, it may be pointed out that the majority were only slightly below the standard. The serious adulteration prevalent some years ago is now conspicuously absent.

Five cases were reported for prosecution, but two of these were subsequently withdrawn on account of the sample bottles having burst owing to fermentation, and being, therefore, unavailable for production in Court. Convictions were obtained against the other offenders and a total of £50 was imposed in fines.

One instance of serious adulteration is worthy of mention as it represents the most flagrant contravention met with for many years. This sample was procured while the milk was in course of delivery to a dairy shop and was consigned by a farmer located outside the City boundary. The certificate of analysis gave the startling result that the milk was deficient in milk fat to the extent of at least 36 per cent., and that it contained at least 38 per cent. of added water. A prosecution was taken against the offender in the Sheriff Court, when a plea of guilty was tendered. The explanation offered in court on his behalf was to the effect that the milk in question must have been tampered with by some of his servants, an excuse which has now become practically stereotyped. Two previous convictions were libelled against the accused and on this occasion the Sheriff inflicted a fine of £35.

The average amount of milk fat present in all the statutory samples taken, including those certified as being adulterated, was 3·48 per cent., being considerably over the presumptive standard in the Sale of Milk Regulations, namely, 3 per cent.

Although a fixed Government standard for sweet milk was recommended by a Departmental Committee in year 1922, namely, 3 per cent. of milk fat and 8·5 per cent. of milk solids other than fat, this has not yet been adopted. The suggestion has been made in some quarters that it is sometimes difficult to produce milk having 8·5 per cent. of non-fatty solids, and that in those circumstances, therefore, a fixed standard would be unfair. The results in Edinburgh, however, show that it is not a difficult matter to produce milk above the standard recommended. In fact, it is the general experience to find the milk of much higher quality. The regularity with which milk is obtained above the proposed standard is borne out not only by the results of the samples procured by the Department but also by the results of thousands of samples analysed annually by some of the large local dairy concerns.

Mince.—Notwithstanding the number of prosecutions against butchers last year for the addition of preservative to Mince, it is apparent that these have produced little effect as this form of contravention is still much too prevalent. It would, therefore, seem that the small amounts inflicted in fines are quite inadequate to act as a deterrent, and that until they are substantially increased there will be little diminution in the number of offences.

A disquieting feature in regard to several of the samples analysed was the excessive amount of preservative present, which suggested that it had been used indiscriminately. To exemplify this it may be mentioned that in 7 samples of Mince, Sulphur Dioxide in amounts varying from 600 parts per million to as high as 1,200 parts had been added. This is considerably in excess of the maximum amount permitted during the summer months of the year (June, July, August and September), namely 450 parts per million. Various explanations for these contraventions were offered by offenders, but in the majority of cases it was the shop assistant who was alleged to have been the person at fault, and who, for some obscure reason, invariably acted in defiance of his employer's express instructions.

The number of samples purchased for analysis was 67, and the City Analyst reported 23 as containing Sulphur Dioxide and one as containing a prohibited preservative, namely, Boric Acid.

Legal proceedings were instituted against 21 butchers, each of whom was convicted and a total amount of £54, 14s. was imposed in fines and expenses.

Sausages.—There was a marked increase in the number of samples of sausages submitted for analysis, and judging by the results it is evident that the greater number of butchers throughout the City are complying with the requirements of the Preservative Regulations in regard to this particular article. Unfortunately, however, as previously mentioned in regard to Mince, attention has to be directed to the very large amount of preservative in several of the samples, an amount so large, indeed, as to imply gross carelessness. The Analyst reported on seven as containing Sulphur Dioxide to the extent of 1,000 parts per million or over, while two contained the extreme amount of 1,800 and 2,000 parts respectively, a very serious proportion when compared with the prescribed maximum of 450 parts per million.

Altogether 61 samples of various kinds of sausages were analysed and 51 were certified as conforming with the standard, 9 containing an amount in excess of this and one containing a prohibited preservative, namely, Boric Acid.

Eight prosecutions were made, a plea of guilty being tendered in each case and a sum of £14, 2s. being inflicted in fines and expenses.

Oranges.—The attention of the Department was directed to an alleged practice of dipping oranges, in the country of origin, into preparations containing preservatives such as Boric Acid and Formaldehyde. If these, when imported, contained on the peel or elsewhere, any such preservative, this would constitute an offence against the Public Health (Preservatives, etc., in Food) Regulations (Scotland). Accordingly, nine samples of different varieties of oranges, representing the products of California, Jamaica, Spain and South Africa, were procured and submitted for analysis, and the City Analyst reported all the samples as being free from these preservatives.

Other Foods.—Other articles of food reported on adversely by the Analyst were as follows :—

Two samples of Pearl Barley and 2 samples of Smoked Fish Fillet contained Sulphur Dioxide, a sample of Raspberry Wine containing Salicylic Acid and a sample of Whisky under the prescribed proof spirit. In each case the persons involved were communicated with and warned that legal action would probably be taken in the event of any future offence.

Imported Foodstuffs.—At Leith Docks samples of various foodstuffs, specified under the Preservatives Regulations were procured for analysis. These required to be taken on the arrival of vessels from abroad and before delivery to the importers. During the year 54 samples were submitted for analysis, comprising 17 varieties of foodstuffs, the larger number of which had been consigned from Denmark. The results were most satisfactory, as 53 were reported to be in conformity with the requirements of the Regulations while one contained a trivial quantity of Sulphur Dioxide.

ICE-CREAM.

Twenty-three samples of Ice-cream were procured for analysis from different vendors throughout the City, and the average amount of milk fat found present was 3·12 per cent. Three new applications were received from shopkeepers requesting samples to be taken in order to obtain the certificate instituted by the Medical Officer of Health for Ice-cream of a specified standard of Milk Fat, and two of these were granted. The total number of persons who are in possession of this certificate is 113.

In previous reports the suggestion was made that it would be in the interest both of the consumer and the manufacturer if a minimum Government standard of milk fat were fixed for all ice-cream. There is ample evidence that producers are favourable to this view. Such a standard would ensure to the public an article of reasonably good quality.

THE RAG FLOCK ACT, 1911.

Since the inception of this Act, the samples of Rag Flock submitted for the purpose of analysis have never shewn such a high standard of cleanliness as during the present year.

Altogether ten samples were procured from various bedding manufacturers throughout the City, and the Public Analyst reported that the prescribed standard had been complied with in every instance.

An examination of the certificates of analysis discloses the striking fact that no sample contained more than five parts of Chlorine per 100,000 parts of rag flock, while in two cases the amount found present consisted of only one part Chlorine.

The significance of these figures is apparent when a comparison is made with the permissible amount specified in the Regulations framed in conformity with the Act, viz., 30 parts of Chlorine per 100,000 parts of rag flock.

The results are very gratifying indeed and reflect great credit on the manufacturers concerned.

THE POISONS AND PHARMACY ACT, 1908.

There is little variation from year to year in the names that appear on the register kept under this Act, and the applications received are almost wholly for the renewal of licences previously granted.

During the present term 28 certificates of registration were passed by the Local Authority, as compared with 27 in the previous year.

Visitation was made to the various premises and it was evident that the regulation whereby all poisonous substances must be kept in a separate drawer or closed receptacle apart from any other goods, was being carefully observed.

This provision is not applicable to certain varieties of Sheep Dip of a non-poisonous nature which are now on sale in several shops.

Examination of the Poisons' books shewed that the licence holders were observant in entering the details required under the Act, and any infringements were of a comparatively trivial nature.

THE FERTILISERS AND FEEDING STUFFS ACT, 1926.

This Act is the third legislative effort to control the sale of Fertilisers and Feeding Stuffs, the two previous measures having been passed in 1893 and 1906. These latter Acts could not be regarded as more than partially successful, and it was on account of complaints from both farmers and traders that the present Act was framed.

It seems to have been the general belief that the reason, to some extent, for the failure of the 1906 Act was the fact that farmers had a rooted objection to being drawn into legal proceedings.

In order to obviate this the terms of the present Act require that samples taken on the farm can only be used for the purpose of civil claims, while those for official purposes must be taken on the seller's premises instead of after delivery.

The Act came into operation on the 1st July this year, and inspection of various premises throughout the City has shewn that the manufacturers are careful in their observation of its terms.

Two samples of feeding stuffs were taken in the prescribed manner at the place of manufacture, these being of Linseed Cake Meal and Calf Meal. The Agricultural Analyst reported that the former conformed to the statutory statement in all respects, while the latter was below in one constituent, viz., Oil, but that this was counterbalanced by the excess in another constituent, viz., Albuminoids.

MERCHANDISE MARKS ACT, 1926.

This Act provides that every Local Authority authorised to appoint an Analyst for the purposes of the Sale of Food and Drugs Acts may, so far as relates to any goods being foodstuffs to which an Order in Council under the Act applies, execute any of the provisions of the Act other than those relating to the importation of goods.

The first Order in Council to be passed under this Section of the Act was in relation to fresh apples, and came into operation on the 13th November 1928. It made it an offence to import or sell or expose for sale in the United Kingdom any imported fresh apples unless they were marked with an indication of origin. An inspection of fruiterers' and grocers' premises throughout the City was made in order to ascertain if the terms of the Order were being observed, and while it was evident that the majority of the shopkeepers were complying with the requirements, it was found that several had failed in this respect. A warning was given to each person in default, and subsequent visits to the premises proved that this procedure had been effective.

PORT SANITARY INSPECTION.

The total number of vessels, including steamers, motor vessels, sailing ships and fishing craft arriving within the Port Sanitary District during the year 1928 was 9,318 vessels, representing a total tonnage of 2,798,054. In comparison with the figures of the previous year an increase in arrivals of 65 vessels and 93,885 tons falls to be recorded.

Ships arriving direct from overseas, and particularly vessels calling at Ports in which it is known or suspected that certain infectious diseases have occurred, are subjected to special enquiry as to the occurrence of sickness during the voyage. In connection with vessels arriving from plague-infected ports this enquiry extends as well to the occurrence of sickness amongst the rat-population on board. In addition, the Masters of these particular vessels are requested to rat-guard all mooring ropes as a precautionary measure against the escape of rats ashore, and extermination measures are required to be taken whilst the vessels are lying in port. Specimens of the rodents secured are subjected to bacteriological examination. Forty-seven vessels arrived from plague-infected or suspected ports and, in all, sixty-four specimens of rats examined yielded negative results.

The periodical deratization of vessels continues to be a necessary requirement to be complied with in the Quarantine Regulations of many countries, and in order to minimise the frequency with which many vessels have had to undergo fumigation measures, agreement was reached at the International Sanitary Convention of Paris, 1926, to regulate requirements in this respect to cover periods of six months at least and to permit the issue of special international deratization certificates valid for this period. Under the terms of the Convention Leith is scheduled as one of the Ports at which application may be made for these certificates. Nine applications received during the year were duly granted after the necessary requirements were fulfilled, as also twenty-three applications for fumigation certificates in accord with the Quarantine Regulations of the United States of America.

The total number of rats destroyed during the year by the measures required in terms of the International Sanitary Convention of Paris, 1926, the Quarantine Regulations of the United States of America, and the Rats and Mice (Destruction) Act, 1919, on board vessels arriving within the Port Sanitary District, including rat-repressive measures taken within the dock area, was 1,452.

In addition to the above duties a rigorous inspection is carried out as to the general cleanliness of vessels, particularly the condition of the drinking-water tanks, bilges, sanitary conveniences, wash-places, holds, galleys, food-stores and living quarters, whilst the presence of vermin, the existence of nuisances and sanitary defects, and the source and purity of the water supply on board also engage attention.

The water supply on board vessels is found generally to be quite satisfactory, and those responsible fully realise the absolute necessity of securing and maintaining pure supplies as well as of frequently cleansing the storage tanks.

The general cleanliness of vessels, particularly in the living quarters, is found to be of a variable standard, ranging at times from the dirtiest and most objectionable conditions to that of the most scrupulous cleanliness, according to the class or type of trader. It is a noteworthy feature that in some of the smaller vessels, where the duties pertaining to the cleanliness of the crews' quarters are left to be carried out at the will of the men themselves during their "off-time," conditions are found to be the most unsatisfactory. Again, lack of command, the absence of organisation or proper facilities, and objectionable constructional features often obtrude themselves as conditions associated with the low standard of cleanliness found in the crews' quarters of many vessels. The sailors or firemen are too frequently found herded together in one place, and the cubic capacity and floor space are most severely limited. The situation, design, heating, lighting, ventilation and fitments of these places often leave much to be desired, whilst the sanitary conveniences and ablution facilities are often crude and primitive.

In a recently-constructed vessel the port-lights were found to be so situated that the light was reflected overhead, with the result that the greater part of the crews' quarters and the floor were enshrouded in darkness. The presence of a prison deck-light, measuring only a few inches, focussing its piercing rays on a portion of the floor, merely served to emphasise the lack of light. The dark, dingy, barren and congested appearance of these particular quarters was more reminiscent of the old-time conditions than of modern marine architecture !

Conditions such as these naturally encourage the spread of vermin once introduced, and the eradication is a problem continually presenting itself in many ships. Insecticides of new and varied qualities are being continually put upon the market, but however efficient their respective claims may be from the laboratory point of view, they signally fail to achieve their purpose under existing conditions on many vessels. Factors which militate against their success are failure to penetrate into hidden crevices and, the human factor, lack of conscientious and diligent application, as well as failure to deal with infested bedding and clothing. Efficient fumigation by experienced operators is the most satisfactory and quickest method yet known of eradicating vermin. Much progress has been made in this respect with new gases, which penetrate everywhere throughout the ship. These gases are harmless to decorations, fitments, bedding and clothing, and are fatal to nits as well as insects.

In the better designed ships the eradication of vermin does not present such a formidable problem, as the sleeping accommodation limits two men to a room ; better light and ventilation are provided ; more generous accommodation is given the crew in the form of separate messrooms, wash-places and improved washing facilities. This affords a higher standard of cleanliness and comparative freedom from vermin.

The cleanly manner in which the roads, wharves, sheds, etc., have been kept throughout the dock area and the systematic rat-repressive measures taken by the Leith Dock Commissioners are deserving of the highest commendation.

I have also to express my appreciation of the valuable co-operation and assistance received from H.M. Collector of Customs, the Chief Preventive Officer and Staff, the Leith Dock Commissioners and their officials, the Granton Harbour Officials, and the various shipping companies and agents who have aided the Port Sanitary Department in the discharge of its duties.

Form A.

AMOUNT OF SHIPPING ENTERING THE PORT SANITARY DISTRICT
DURING THE YEAR 1928.

	Number.	Tonnage.	Number Inspected by the Sanitary Inspector.	Number reported to be defective.	Number of Notices issued.
Foreign { Steamers . . . 1,464		1,355,425	635	23	5
Motor . . . 19		13,938	5	...	...
Sailing . . . 4		612	...	...	...
Fishing . . . ...		...	...	...	...
Total Foreign . . .	1,487	1,369,975	640	23	5
Coastwise { Steamers . . . 4,361		1,153,246	156	11	...
Motor . . . 23		8,126	2	...	...
Sailing . . . 20		4,071	...	...	...
Fishing . . . 3,427		262,636	201	...	...
Total Coastwise . . .	7,831	1,428,079	359	11	...
Total Foreign and Coastwise	9,318	2,798,054	999	34	5

Form B.

RATS DESTROYED IN 1928.

Number of	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total in Year.
Black rats }	181	46	86	113	175	106	183	185	87	69	110	151	1,492
Brown rats }													
Rats examined . . .	6	2	...	4	12	7	7	2	7	6	3	8	64
Rats infected with plague . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Rats not infected with plague	6	2	...	4	12	7	7	2	7	6	3	8	64

Form C.

PRECAUTIONS AGAINST PLAGUE.

Particulars relating to vessels Infected or Suspected or from infected Ports.

No. of Vessel.	Date of Arrival.	Whether Infected, Suspected, or from an Infected Port.	Method of Rat Destruction Employed.			No. of Rats killed.	Whether a Certificate of Deratization Issued.	Remarks.
			SO ₂	H.C.N.	Poison Traps.			
1	Jan. 6	Rangoon . . .	...	...	1	...	...	...
2	" 9	Constitucion . . .	...	1	...	39	1	...
3	" 18	Braila-Galatz . . .	...	1	...	67	1	...
4	" 25	Santa Fé-Rosario . . .	...	...	1	2	...	...
5	" 27	Bombay . . .	...	...	1	...	...	...
6	Feb. 7	Bombay-Hull . . .	...	...	1	2	...	...
7	" 25	Karachi-Hamburg . . .	...	...	1	...	...	...
8	Mar. 9	Rosario-Buenos Aires . . .	...	...	1	...	...	...
9	" 27	Durban-Dunkirk . . .	...	...	1	...	...	...
10	" 29	Bombay-Port Said . . .	...	...	1	...	...	...
11	April 7	Bombay-Port Said . . .	...	...	1	4	...	...
12	" 11	Rangoon-Liverpool . . .	...	...	1	6	...	...
13	" 13	Bombay-Oran . . .	...	...	1	7	...	...
14	" 15	Singapore-Copenhagen . . .	...	...	1	6	...	...
15	May 7	Singapore-Hamburg . . .	...	1	...	61	1	...
16	" 11	Rosario-London . . .	...	1	...	67	1	...
17	" 14	Bombay . . .	...	...	1	...	...	...
18	" 21	Rosario-Hamburg . . .	...	...	1	...	...	...
19	" 25	Bombay-Middlesbro' . . .	...	...	1	...	...	...
20	" 30	Bombay . . .	...	...	1	...	...	...
21	June 23	Bombay-Hull . . .	...	...	1	12	...	...
22	July 9	Alexandria-Southampton . . .	...	...	1	13	...	...
23	" 19	Rosario . . .	...	...	1	...	...	...
24	Aug. 1	Bombay-Bona . . .	...	...	1	...	...	...
25	" 2	Karachi-Hull . . .	...	...	1	...	...	...
26	" 6	Rangoon-Marseilles . . .	...	...	1	...	...	...
27	" 7	Karachi-Hamburg . . .	...	...	1	...	...	...
28	" 10	Buenos Aires . . .	...	...	1	4	...	...
29	" 17	Rosario-Las Palmas . . .	...	...	1	6	...	...
30	" 27	Karachi-Hamburg . . .	...	...	1	...	...	...
31	Sept. 1	Karachi-Hamburg . . .	...	...	1	...	...	...
32	" 8	Bombay-Karachi . . .	...	...	1	...	...	...
33	" 12	Seigon-London . . .	...	...	1	...	...	...
34	" 14	Alexandria-Hull . . .	...	...	1	...	...	...
35	" 22	Rangoon . . .	...	...	1	...	...	...
36	Oct. 9	Buenos Aires . . .	...	...	1	1	...	...
37	" 17	Buenos Aires-Las Palmas . . .	...	...	1	12	...	...
38	" 19	Alexandria-Oran . . .	...	...	1	18	...	...
39	Nov. 1	Karachi-Antwerp . . .	...	...	1	...	...	...
40	" 9	Bombay-London . . .	...	...	1	...	...	...
41	" 12	Rosario . . .	...	...	1	3	...	...
42	" 17	Rangoon-Plymouth . . .	...	...	1	4	...	...
43	Dec. 3	Rosario . . .	...	...	1	...	...	...
44	" 13	Shanghai-London . . .	...	...	1	...	...	...
45	" 19	Rosario . . .	...	...	1	...	...	...
46	" 20	Alexandria . . .	...	...	1	5	...	...
47	" 26	Alexandria-Dunkirk . . .	...	...	1	...	...	...
			...	4	43	339	4	...

Form D.

Vessels other than those dealt with in Form C. subjected to measures of Rat Destruction.

No. of Vessels Fumigated by SO ₂ .	No. of Rats killed.	No. of Vessels Fumigated by H.C.N.	No. of Rats killed.	No. of Vessels on which trapping or poisoning were employed.	No. of Rats killed.	No. of Fumigation Certificates "Port 10."	Other Certificates.	Remarks.
...	...	28	790	56	198	23	9	Ropes and hawsers Rat-guarded.

Port Sanitary Inspection—Annual Statement.

Year 1928.

Ships boarded and inspected	999
No. of re-visits made	580
No. of nuisances discovered	6,215
No. of nuisances abated	6,215
No. of communications sent	58
No. of Notices served	72
No. of verbal warnings	793
No. of ships fumigated or otherwise treated for vermin by owners	98
No. of fumigation certificates granted	100
No. of ships fumigated for U.S.A. Certificate	23
No. of International Fumigation Certificates granted	9
No. of International Exemption Certificates granted . . . . .	...
No. of Local Fumigation Certificates granted	68
No. of rats exterminated	1,452
No. of ships provided with rat guards	729
Notices of regulations served upon Masters or Officers in charge	296
V.D. Pamphlets distributed on behalf of the B.S.H. Council	313
No. of rats submitted for bacteriological examination	64
Negative	64
U.S.A. Bills of Health endorsed	19

Nuisances Discovered.

Dirty floors, tables, decks, etc.	670
Dirty bunks and bedding	1,748
Dirty partitions and ceilings	540
Dirty lockers	1,563
Foul closets and latrines	226
Foul wash-basins	159
Foul sinks	14
Foul baths	10
Choked scuppers	41
Choked and defective latrines	44
Choked and defective wash-basins	55
Choked and defective sinks and baths	12
Obnoxious odours	2
Accumulations of garbage, refuse, etc.	101
Dirty fresh water tanks	63
Dirty and offensive bilges	552
Dirty galleys, food stores, pantries, etc.	50
Dirty wash places	83
Dampness in quarters	11
Insufficient light and ventilation	5
Ships without rat guards	69
Presence of rats and mice	47
Presence of cockroaches and beetles	44
Presence of bugs and fleas	83
Miscellaneous	23
Total	<u>6,215</u>

S T A F F.

I desire to express my cordial appreciation of the hearty co-operation and the enthusiastic services rendered by Mr Thomas Bishop, Depute Chief Inspector, and all the members of the Staff.

I am,

My Lord Provost and Gentlemen,

Your obedient Servant,

ALLAN W. RITCHIE, F.R.San.Inst.,
Chief Sanitary Inspector.

SANITARY IMPROVEMENTS IN 1928.

NATURE OF NUISANCE.		TOTALS	
Water-closets :—			
New apparatus substituted .	.		135
Improved or repaired .	.	1	369
Partitions of W.C. apartments repaired .	.	13	
Water-closets introduced .	.	10	33
Water-closets and sinks in a filthy condition and cleansed .	.	7	
Choked water-closets cleared .	.	2	29
Water-closet apartments insufficiently lighted and ventilated—improvements effected .	.	1	170
New water-closet apartments provided .	.	6	
Sinks, Tubs and Wash-hand Basins :—			
Sinks introduced .	.	1	9
Insanitary sinks abolished .	.	2	
Earthenware sinks and tubs substituted .	.	5	3
Repaired (Woodwork, etc.) .	.	1	30
Choked sinks, wash-tubs, etc., cleared .	.	1	29
Wash-hand basins renewed or introduced .	.	1	91
Drains :—			1,986
Choked drains cleared .	.	4	65
Choked surface traps cleared .	.	2	
Drains repaired or renewed .	.	1	27
Soil pipes repaired or renewed .	.	4	4353
Sinks, etc., waste-pipes repaired or renewed .	.	1	
Rain-water conductors repaired or renewed .	.	2	
Water Supply :—			
Cisterns found dirty .	.	3	
Cisterns found without covers .	.	3	
CARRY FORWARD .	.	50	339
361	183	45	274
		38	179
		119	306
		45	303
		978	129
		220	140
		72	125
		129	367
		303	50
		339	22
		22	5
		5	27

SANITARY IMPROVEMENTS IN 1928—*continued.*

NATURE OF NUISANCE.		Cohinton												Corforphine and Cromond												TOTALS		
BROUGHT FORWARD .	361	183	45	26	38	119	45	978	220	72	129	303	306	17.9	367	274	125	140	50	339	22	5	27	5	27	4,353		
Water Supply (continued):—																												
Cisterns repaired or renewed	.	4	6	...	...	1	2	1	...	1	...	8	2	4	15	1	5	6	...	1	...	...	...	...	...	58	1
Cisterns removed to a more sanitary situation	.	...	...	...	...	1	...	1	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	10
Branches taken off the Main	.	...	2	4	1	3	...	1	2	...	1	3	3	2	10	16	2	4	6	...	1	...	...	...	...	...	62
Water pipes repaired	.	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	1	2	...	...	...	...	...	...	...	56
Houses temporarily without water supply due to burst pipes, etc.	.	...	...	...	6	2	...	...	...	...	1	...	...	...	...	22	16	...	...	...	...	...	...	...	...	...
Repairs to Houses:—																												
Partition walls repaired	.	...	5	11	7	6	2	8	4	9	8	8	16	35	3	23	19	7	11	17	...	1	...	5	...	13	
Floors, hearths, doors, etc., repaired	.	12	4	8	1	7	11	11	23	3	34	40	60	15	16	24	7	23	7	11	17	...	8	...	3	...	244	
Windows and skylights repaired or renewed	.	1	...	3	...	4	...	1	2	1	2	1	6	...	3	4	...	1	1	1	...	...	...	...	...	...	334
Coal bunkers repaired or provided	.	...	8	2	...	...	1	4	...	4	...	5	4	13	...	6	5	1	1	5	8	2	1	...	...	...	30
Grates or ranges repaired or substituted	.	11	8	6	3	2	9	5	10	9	15	13	63	9	29	45	6	12	13	12	10	...	5	...	...	...	66
Wall and ceiling plaster repaired	.	4	1	2	3	2	...	4	3	1	1	1	8	11	6	...	2	10	13	4	3	4	3	...	...	...	299
Defective roofs repaired	.	...	...	1	...	...	...	...	...	...	...	2	...	...	1	...	2	...	...	...	...	...	...	...	...	...	86
Boiler of kitchen range renewed	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Nuisances in Houses:—																												
Floors and bedding of houses in a dirty condition and cleansed by tenants	.	2	2	6	1	4	3	3	4	...	3	5	23	2	30	54	24	5	36	3	17	...	2	...	2	...	231	
Nuisance due to bad smells in dwelling-houses caused by escapes of gas, dead vermin, etc.	.	3	1	2	4	1	4	3	6	2	7	3	2	8	12	3	11	6	...	4	...	1	1	...	1	...	88	
Smoke in houses due to foul or obstructed vents	.	7	6	3	1	1	...	2	4	3	5	4	23	2	16	22	5	8	7	2	...	3	...	3	...	...	131
Damp houses remedied or abated	.	5	...	3	3	1	3	2	1	...	...	...	10	3	5	1	3	1	4	...	...	...	2	...	2	...	80
Damp and uninhabitable houses vacated	.	...	62	99	21	6	2	12	9	15	15	39	37	211	48	129	254	36	56	151	56	...	...	...	...	...	10
Houses overcrowded	.	2	...	...	1	...	...	...	...	...	3	3	1	2	4	2	...	3	4	...	...	...	...	...	...	...	...
Houses and shops flooded from defects in flats above	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CARRY FORWARD .	.	495	330	108	59	69	174	92	105.5	269	188	264	779	407	498	863	375	287	422	166	487	41	17	58	...	5,7503		

SANITARY IMPROVEMENTS IN 1928—*continued.*

NATURE OF NUISANCE.		BROUGHT FORWARD .												TOTALS										
<i>Nuisances in Houses (continued):—</i>																								
Animals kept in, or in close proximity to, dwellings .	1	2	3	3	...	4	1	...	4	3	...	1	1	4	3	...								
Houses distempered, papered or painted by—	1	2	1	1	...	...	5	27	8	25	15	61	5	22	37	9	...					
Tenants .	13	17	4	15	12	9	...	...	...	1	1	6	...	1	4	9	5				
Owners .	.	.	.	.	.	.	.	.	.	25	15	61	5	22	37	9	21
<i>Stairs, Passages, etc.:—</i>																								
Staircases painted .	89	106	53	40	72	75	27	64	19	25	114	139	73	102	125	59	99							
Stairs and passages in a dirty condition and cleansed by tenants .	80	109	40	49	42	39	19	18	10	19	65	166	45	122	193	53	33							
Dogs and cats committing nuisance in common stairs and back greens .	4	4	13	6	4	10	3	1	8	3	4	6	15	15	5	4	3							
Accumulations of rubbish, garbage and filth removed from areas, roofs, cellars and vacant houses .	25	106	9	16	26	16	18	26	10	22	46	143	32	103	257	31	50							
Accumulations of manure near dwellings .	3	10	2	...	1	13	19	2	7	1	5	4	2	14	4	7	10							
Disused cellars cleaned and closed .	10	2	1	1	...	...	1	1	...	...	3	12	3	18	39	...	3			
Tenants casting garbage over windows .	...	...	...	1	1	...	1	1	...	...	2	2	1	4	7	10	...		
Seasonal workers' huts found dirty and cleansed .	14	23	10	15	18	9	22	20	16	9	21	20	7	10	19	32	15							
Shops cleaned by tenants or owners .	2	19	3	1	...	1	1	2	...	1	1	19	1	9	12	8	4							
Premises infested by rats .	2	7	7	39	7	11	16	5	7	13	13	28	5	22	10	11	10							
Premises infested by other vermin .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
Surfacing of courts repaired or renewed .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	1
Miscellaneous nuisances .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	2
<i>Total</i>	495	330	108	59	69	174	92	1055	269	188	779	407	498	863	375	287	422							
<i>Collinton</i>																								
<i>Central Leith</i>																								
<i>West Leith</i>																								
<i>South Leith</i>																								
<i>Portobello</i>																								
<i>George Square</i>																								
<i>St. Leonards</i>																								
<i>St. Giles</i>																								
<i>Dalry</i>																								
<i>St. Andrews</i>																								
<i>St. Stephen's</i>																								
<i>Haymarket</i>																								
<i>Broughton</i>																								
<i>Melvilleton</i>																								
<i>Newington</i>																								
<i>Morumbegside</i>																								
<i>Cannongate</i>																								
<i>Calton</i>																								
<i>Corstorphine and Craigmald</i>																								
<i>TOTALS</i>	752	739	253	259	274	354	214	1222	356	313	551	1401	610	935	1395	597	543	679	298	585	100	45	118	12,793

SUMMARY.

Number of complaints by citizens	2,598
,, ,, ,, other Departments	75
Number of nuisances discovered and reported by District Inspectors	10,120
	—
Total number of nuisances dealt with by the Department	12,793
Of these have been abated	12,281
The remainder being in progress or under arrangement	512
Number of intimations of existence of nuisance served	1,984
,, notices to remove nuisances served at the instance of the Local Authority	90
,, notices delivered cautioning persons against casting garbage over windows	1,906
,, notices served on occupiers failing to take due rotation of stair sweeping and washing	956
,, notices served for the cleaning of dirty areas, cellars, etc.	235
,, notices and letters served for the whitewashing and cleansing of houses	267
,, notices and letters served for the removal of accumulation of manure	11
,, notices served in connection with defective drains and soil pipes	309

VETERINARY DEPARTMENT,
 PUBLIC HEALTH CHAMBERS,
 JOHNSTON TERRACE,
 EDINBURGH, 30th April 1929.

To

*The Lord Provost, Magistrates, and
 Council of the City of Edinburgh.*

MY LORD AND GENTLEMEN,

I beg to submit, for transmission to the Department of Health for Scotland, my Report for the year ending 31st December 1928, which has been called for by the Department in virtue of their powers under Section 4 (5) of the Milk and Dairies (Scotland) Act, 1914.

I am,

Your obedient Servant,

A. GOFTON,
Chief Veterinary Inspector.

To

*The Secretary,
 Department of Health for Scotland,
 Edinburgh.*

GENTLEMEN,

I beg to submit herewith my Report for the year 1928, as required by Section 4 (5) of the Milk and Dairies (Scotland) Act, 1914, and the Department's Circular Letter of 18th December 1928. An account of the year's work in connection with the inspection of meat and other foodstuffs, including port food inspection, is added.

MILK AND DAIRIES (SCOTLAND) ACT, 1914.

No administrative difficulties have been encountered during the year in the operation of the Act, and no points have arisen which merit special mention.

(a) **Inspection of Cows and Dairy Byres.**—In terms of the Act the Veterinary Inspector is required to inspect the cattle in registered dairies from time to time and once at least in each year. In accordance with practice the cattle in all the registered dairies in the City have been examined at intervals of one month. During the year 949 visits were made to registered dairies and the cattle therein inspected. In determining the duties of the Veterinary Inspector, under the Act, the Local Authority made provision for the periodical inspection of all dairy cattle in premises which were exempt from registration under the Act. In accordance with this requirement, 105 visits were made to non-registered dairies.

The newly-calved cows offered for sale in the Market at Gorgie on the Tuesday and Wednesday of each week were subjected to inspection and examination in the Market identical to that which takes place in registered dairy premises. During the year 3,292 cows were so examined in the Market, representing an average of 63 cows exposed for sale each week. Two cows affected with tuberculosis of the udder, and 2 having a chronic cough and showing definite clinical symptoms of tuberculosis were ordered to be removed from the Markets in terms of Article 12 of the Tuberculosis Order of 1925. Three of these animals were returned to the place of origin and the fourth was slaughtered by the owner at his own risk. In the case of the returned animals, the Local Authorities concerned were informed so that the animals should come under

their observation immediately on arrival. Five cows suffering from emaciation attributable to causes other than tuberculosis, two suffering from septic uterine conditions following parturition, and twelve affected with mastitis were discovered in the Markets and withdrawn from sale. The total number of animals thus dealt with in the Markets was twenty-three.

(b) **Health of Cows, Etc.**—Apart from tuberculosis 154 diseased cows were detected in the course of inspections of cattle in registered or exempt premises. The diseases encountered were as follows :—

Suppurating conditions of udders and teats	5	Johne's Disease	4
Metritis	3	Mastitis	90
Psoroptic Mange and Ring- worm	34	Varicella	6
		General disorders	12

The cows in question were removed permanently or temporarily from the milking herds as the cases required. The milk was withdrawn from sale in all cases in which risk was entailed of contamination or infection from the diseased condition. In appropriate cases it was fed to pigs or calves after boiling, otherwise it was destroyed.

As in previous years mastitis occupies the place of prominence amongst the diseased conditions encountered. As seen in the town dairies it would appear that once the infection of mastitis has been established the condition progresses steadily in the majority of cases till it results in complete loss of the affected quarter. This is generally associated with a chronic purulent catarrh within the udder, the secretion from which is more or less foetid. Our experience recently has encouraged the belief that appropriate vaccine treatment applied in the earliest stages of the attack will check the course of the disease in a large percentage of cases and permit of a useful recovery. This line of treatment merits a more extensive trial than it has so far received.

(c) **Tuberculosis in Dairy Cows.**—During the year 19 cows on registered premises, which were found to be tuberculous within the meaning of the Tuberculosis Order were dealt with in terms of that Order. Seven of these animals were affected with tuberculosis of the udder, six were the subjects of tuberculous emaciation and six had a chronic cough and were showing definite clinical evidence of tuberculosis. Tuberculosis of the udder was diagnosed by microscopical examination of the milk in five cases, in two, microscopical examination was negative and diagnosis was arrived at by means of the biological test. Nine of the emaciated and clinical cases were diagnosed by microscopical examination of the sputum or urine (or both). In one animal dependence was placed solely on the results of clinical examination, and in the remaining two the double-intradermal tuberculin test was applied to confirm diagnosis before ordering slaughter with its corollary in the shape of compensation to the owner.

In addition to the 19 animals referred to, 24 cows were proved to be affected with tuberculosis by the examination of pathological material obtained from them. These animals did not come within the scope of the Tuberculosis Order, but they were removed from the herds and sold for slaughter by the owners concerned. The total number of milk cows removed from registered herds and Gorgie Markets during the year, on account of tuberculosis, was thus 49.

The tuberculin test was not applied in any case under the powers contained in Section 22 of the Act. So far as that test was employed for the diagnosis of tuberculosis it was used under the powers contained in the Tuberculosis Order.

The incidence of tuberculosis in dairy cows in the City and district as revealed by post-mortem statistics at the Abattoirs shows no material change as compared with former years. During the year 1,587 cows or 41·84 per cent. of the total number

slaughtered in the City Abattoirs were affected with tuberculosis in some degree. In 9.45 per cent. of these, the whole of the carcase and all the offal were condemned. The corresponding figure for the preceding year was 11.99 per cent. In 17.08 per cent. of the tuberculous cows the disease was moderately extensive in its distribution and in 73.47 per cent. it was limited in extent and more or less localised.

The tubercle-free herd maintained by the Royal Victoria Hospital Tuberculosis Trust at Gracemount Farm, continues to comply with the requirements of the Milk (Special Designations) Orders in respect of the health of the animals. The statutory tuberculin tests (subcutaneous and ophthalmic) were applied twice during the year, on the first occasion to 45 animals, and on the second to 43. The first test revealed one reactor. The animal was slaughtered and on post-mortem small lesions of tuberculosis were found in the mediastinal lymphatic glands.

The Trust maintains a hill-grazing for the rearing of young stock and for pasturing cows resting prior to calving. The whole of the grazing stock was subjected to the double-intradermal tuberculin test in the spring and in the autumn. At the spring test 42 animals came under observation and at the autumn test 56. There were no reactions.

(d) **Repairs, Improvements, etc., in Cowsheds.**—In addition to the minor repairs necessary for general maintenance special improvements were carried out during the year as follows:—

	DAIRIES.
Increased ventilation	1
Trevisses reconstructed	1
General reconditioning of premises	3
Roof renewed	1
Water Bowls fitted	3

(e) **General Sanitary Conditions Found.**—Generally speaking, the dairy premises have been maintained in good sanitary condition. During the year, 28 notices were served requiring action in respect of the cleansing of persons, cleansing of cows, cleansing of premises, removal of horse dung from channels, and other similar faults.

(f) **Number of Cowsheds.**—At December 1928, there were on the register 92 premises in the occupation of milk producers. The number of cowsheds on these premises was 159, with a total cow population of 3,421.

Eleven certificates of registration were cancelled during the year and, of these, four were revived on the application of new tenants. Two new certificates of registration were granted. There was thus a net decrease in the City of 5 dairy premises in the occupation of milk producers.

At December 1928, the number of exempted premises was 30 and the number of cows therein 69. These premises are all licensed under the Cattlesheds in Burghs (Scotland) Act, 1866. In only a few cases is milk sold from these premises. Exemption from Registration under the Milk and Dairies (Scotland) Act, continued to be granted in those cases in which the amount of milk sold per day did not exceed two gallons.

(g) **Milk and Dairies Order, 1925.**—Articles 5 to 16 of the Milk and Dairies Order 1925, have been complied with so far as these articles apply to the premises of milk producers in the City.

Milk and Dairies (Scotland) Act, 1914 (Section 18).—It will be observed from Mr Jowett's report that, during the year, 119 samples of milk, consigned to the City from the districts of other local authorities, were subjected to the biological test and that 6 of these proved to be tuberculous. In terms of Section 18 (2) of the Act, the dairy premises from which the affected milks had originated were visited and the cattle

therein were examined jointly with the officers of the local authorities concerned. The investigations entailed 5 visits in the course of which 143 cows were inspected and subjected to clinical examination. In five cases, the animals responsible for the infection of the milk were located and they were slaughtered under the powers contained in the Tuberculosis Order. In the remaining case a cow affected with tuberculosis of the udder had been removed from the byre, by the county authorities concerned, a few days before the result of the biological test was known. A check bulk sample of milk from this source of supply was taken and proved negative to the biological test.

Milk (Special Designations) Order (Scotland), 1923.—In supplement to the reference which has already been made to the certified herd belonging to the Royal Victoria Hospital Tuberculosis Trust, it is desirable to report that the requirements of the Order have been complied with in detail during the year.

An application was received from a producer within the City for a licence permitting the sale of his milk under the designation Grade "A." The conditions specified in the Milk (Special Designations) Order having been complied with, the licence was granted by the Local Authority.

All milks sold in the City under licences granted in terms of the Milk (Special Designations) Order, have been periodically sampled and subjected to bacteriological examination. During the year, one hundred and thirty-nine samples of graded milk were thus examined. Further reference is made, by Mr Jowett, to these examinations in his report on the bacteriological work performed.

Milk Supply—City Hospitals.—At the end of 1927 the Local Authority decided to provide the City Hospitals with milk of "certified" standard from tubercle-free cows, the milk to be produced on farms belonging to the Corporation. Before purchasing stock, considerable alterations were carried out on the existing farm buildings. The main purpose of these alterations was to provide additional lighting and ventilation and to improve the sanitary condition of the floors and drains. Equipment was provided for the efficient sterilisation of milking utensils, etc.

The reconditioned premises were ready for the reception of stock in February, and during the spring and summer months seventy-six cows and heifers were purchased from farms in the Counties of Ayr, Lanark, Dumfries, and Kirkcudbright; the purchases being made subject to a tuberculin test before or after delivery. The whole of the stock was tested with tuberculin at Colinton Mains in the month of June and again in November. On the latter occasion one cow gave a doubtful reaction to the subcutaneous test. She was slaughtered, but detailed post-mortem examination failed to reveal any naked eye evidence of tuberculosis. In view of the fact that the cows were purchased in small numbers from numerous farms, these results must be regarded as very satisfactory.

In addition to the tuberculin tests, the whole of the herd has been subjected to a blood test for contagious abortion, as a precaution against the risk of introduction of that disease. Two animals were found to be positive to this test and they were immediately isolated. Contagious abortion in a dairy herd is a very serious matter from an economic point of view, since it means very few calves and a material reduction in the amount of milk produced over a period of several years. There is reason to believe that the danger from this disease has been avoided.

The output of milk from the farm at the end of the year averaged approximately one hundred and sixty gallons per day. Both in respect of fat content and of bacteriological standard, the milk, as delivered to the Hospitals, has proved on examination to comply fully with the requirements laid down in the milk (Special Designations) Order for "Certified" milk.

BACTERIOLOGICAL LABORATORY.

Summary, by Mr W. Jowett, F.R.C.V.S., D.V.H., of work performed in the Laboratory during 1928.

A.—BACTERIOLOGICAL EXAMINATION OF MILK.

Enumeration of Bacteria.—During the past year many samples of milk have been submitted to bacteriological examination for the purpose of ascertaining their respective hygienic standards, and there is no doubt that such tests serve as a useful index as to the amount of care and cleanliness which have been exercised in the production and handling of this food material.

The following is a summary of the various classes or "grades" of milk samples which have been submitted to bacteriological analysis during 1928:—

Material.	Number.
" Certified " Milk	53
" Grade A " Milk	56
" Pasteurised " Milk	30
Ordinary Market Milk	18
" " Cream	6
Total	<u>163</u>

Of the above milk samples four of the "Certified" and eighteen of the "Grade A" samples failed to conform to the required standard. Such lapses were, however, only temporary, subsequent "graded" milk samples in every case proving, when tested, quite satisfactory and "up to standard."

Of the Pasteurised milk samples tested five failed to conform to the required standard in so far as concerns the general enumeration of *living* bacteria present. When, however, the additional "Presumptive coli test" was applied to the pasteurised milk samples—and this test is applied as a routine test to all milk samples in this laboratory—it was found that living coliform organisms were present in at least seventeen of the pasteurised milk samples in the quantities tested, namely, one-tenth of a cubic centimetre—this being a high percentage. Such results indicate that plenty of scope still exists for improvement in, at any rate, certain of the pasteurised milk supplies sold in the city.

B.—BACTERIOLOGICAL EXAMINATION OF MILK for the presence of Tubercl Bacilli and other Specific Organisms.

I. Milk from Individual Cows (in City byres).

Number Examined.	Object.	Nature of Examination.	Result.
96	Detection of Tubercl Bacilli.	Microscopical	Positive . . . 4 Negative . . . 92

Of the 92 milk samples above shown as microscopically negative, streptococci were detected on microscopical examination alone in 16. Of the remainder, 11 were subsequently submitted to the biological test and 41 to cultural tests, with the following results:—

Number Examined.	Object.	Nature of Examination.	Result.
11	To determine the presence of Tubercl Bacilli	Biological	Positive . . . 3 Negative . . . 8
41	To determine the presence of other Specific Organisms	Cultural	Streptococci . . 20 Staphylococci . . 6 Mixed infection . . 11 C. pyogenes . . 2 Coli Type bacillus . . 2

2. Mixed or Bulk Milk Samples, collected at railway stations in Edinburgh.

Number Examined.	Object.	Nature of Examination.	Result.
119	To determine the presence of Tuberle Bacilli	Biological	Positive : : 6 Negative : : 113

The 6 positive tuberculous country milk samples were followed to their sources and samples obtained from individual animals or groups of animals on the respective farms for the purpose of bacteriological tests. Furthermore, as an additional safeguard, after removal of the tuberculous animals from the respective herds which had been supplying tuberculous milk, check samples were procured from bulk supplies and tested afresh biologically in order to verify the subsequent freedom of such milk from Tuberle bacilli.

C.—BACTERIOLOGICAL EXAMINATION OF OTHER MATERIALS FOR DIAGNOSIS.

Material.	Number Examined.	Nature of Examination.	Result.
Blood preparations	72	Microscopical and cultural (one or both)	<i>Anthrax</i> — Positive . . 5 Negative . . 67
Do.	63	Sero-Agglutination	B. Abortus infection— Positive . . 2 Doubtful . . 2 Negative . . 59
Skin scrapings	17	Microscopical	<i>Mange</i> — (Scheduled forms) Positive . . 1 Negative . . 15 “Ringworm” . . 1
Expectorate (cow's)	16	Microscopical	<i>Tuberculosis</i> — Positive . . 11 Negative . . 5
Diseased organs and material	12	Microscopical, and in certain instances, Cultural and Biological in addition	Tuberculosis . . 2 C. pyogenes infection . . 1 B. Necrosis infection . . 1 Sarcocysts . . 2 Actinobacillosis . . 2 Neoplasms . . 4
Other materials	6	Cultural and Biological	Suspected “Food poisoning” . . 3 Defective or suspicious (adulterated) Food Materials . . 3
Hide Bindings from orange boxes	8	Do. . .	<i>Anthrax</i> — Negative . . 8

The foregoing Tables are self-explanatory. There are, however, one or two items of special interest. Firstly, the percentage of country milk samples (sampled on their arrival at the railway stations or elsewhere in Edinburgh) which on being submitted to the biological test were definitely proved to contain Tuberle bacilli. The percentage during the past year worked out, approximately at 5·0—this figure contrasting favourably with those of the immediately preceding years, which were as follows:—

1918	8·4	1924	14·0
1919	9·3	1925	8·8
1920	9·9	1926	11·0
1921	11·6	1927	5·73
1922	2·0	1928	5·0
1923	5·2		

So that the average over a period of eleven years (1918 to 1928—both years inclusive) works out at 8·26 per cent. The figure for the year 1928 is therefore well below the average.

During the past year material was submitted for investigation from three suspected cases of so-called "food poisoning," these consisting of (1) a cooked meat pie, (2) potted meat, and (3) a sample of shell fish (crab). In none of these instances was it possible to find any proof of the existence of bacterial food poisoning.

Finally, it may be mentioned that in addition to the above detailed investigations and examinations, vaccines (autogenous and stock) were prepared in the laboratory during the past year and were utilised in the treatment of cases of bovine mastitis.

W. JOWETT, F.R.C.V.S., D.V.H.

SUMMARY OF WORK UNDER THE MILK AND DAIRIES (SCOTLAND) ACT, 1914.

Certificates of Registration :—

Applications received	6
Certificates granted	6
" " provisionally	0
" " refused	0
" " cancelled	11
" " in force at December 1927	92
Number of cows in registered dairies	3421
" visits to "	949
" " Gorgie Mart for newly calved cows	103
" " cows examined in Mart	3292
Number of exempted dairies	30
" " cows in exempted dairies	69
" " visits to "	105

Repairs and improvements effected :—

General reconditioning of premises	3
Trevisses reconstructed	1
New roof	1
Increased ventilation	1
Water bowls fitted	3
Minor repairs to walls, floors, etc.	20
	—
	29

Cows removed from dairy herds, and markets, under the Tuberculosis Order of 1925 :—

Tuberculosis of udder	10
Tuberculous emaciation	6
Chronic cough and definite clinical symptoms of tuberculosis	9
	—
Tuberculous cows removed by owners	25
	24
	—
	49

Cows removed from dairy herds from other causes :—

Temporarily	89
Permanently	7
	—
	96

Diseased cows, other than tuberculous, detected in Mart for newly calved cows :—

Septic uterine disorders	2
Mastitis	12
Emaciation	5
	—
	19

Notices served :—

Requiring limewashing and cleansing of premises	192
Requiring removal of manure	9
Requiring cleaning of cows	5
Requiring personal cleanliness	1

Milk consigned from districts of other local authorities :—

Number of samples submitted to biological test	119
Number found tuberculous	6
Number of visits to country dairies	5
Number of cows examined	143
Number of cows detected with tuberculosis of the udder	5

Bacterial Counts of milk	24
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MILK (SPECIAL DESIGNATIONS) ORDER (SCOTLAND) 1923.

Number of cows in licensed herds clinically examined						154
" " " " removed temporarily						1
" " " " permanently						1
Records of tuberculin tests :—						
	No. of Reactors.	No. Doubtful.	No. Negative.	Total.		
Licensed Herds.						
Subcutaneous and Ophthalmic Tests	1	...	127	128		
Double Intradermal Tests . . . . .	...	...	98	98		
Unlicensed Herds.						
Subcutaneous and Ophthalmic Tests	19	1	88	108		
Double Intradermal Tests	3	...	99	102		
Bacterial Counts of Graded Milk :—						
" Certified " Milk	53					
" Grade A " ,	56					
" Pasteurised " ,	30					
			— 139			

INSPECTION OF MEAT AND OTHER FOODS.

(a) **Fat Stock Markets.**—The usual observation has been maintained in the fat stock markets throughout the year, a Veterinary Officer being detailed for duty in the markets on each market day. Observation is maintained for the detection of sick and injured animals and for the prevention of cruelty. Under the Transit of Animals Order power is conferred on a Veterinary Inspector of the Local Authority to prohibit the transport by road or rail of an animal which in his opinion cannot be conveyed without unnecessary suffering, and this power is exercised whenever occasion arises. As a rule the animals concerned are removed to the adjoining abattoir for slaughter at the owner's risk.

The following Table shows the number of animals exposed for sale in the fat stock markets during 1928 :—

Cattle	44,362
Calves	6,022
Sheep	224,387
Swine	21,817
<hr/>	
296,588	

(b) **Abattoirs.**—Supervision has been maintained in accordance with the usual practice at the Gorgie and Leith Abattoirs. As compared with 1927, the total number of animals passing through the Abattoirs shows an increase of 819. Whilst the number of sheep slaughtered decreased, pigs, on the other hand, increased by over 13 per cent.

The numbers of animals passing through the Slaughterhouses during 1928 are shown in the following Table :—

	Gorgie.	Leith.	Total.
Cattle	Oxen	24,828	27,158
	Bulls	725	808
	Cows	3,373	3,793
	Heifers	944	944
	<hr/>	<hr/>	<hr/>
	29,870	2,833	32,703
Calves	4,682	30	4,712
Sheep	150,716	7,726	158,442
Swine	17,174	1,666	18,840
	<hr/>	<hr/>	<hr/>
	202,442	12,255	214,697

(c) **Carcases and Offal Condemned in Abattoirs.**—Carcases partially or wholly condemned in the City Abattoirs weighed approximately 107.99 tons. To this there falls to be added 49.73 tons (weight estimated) of condemned offal, making a total of approximately 157.72 tons, a decrease of 3.26 tons as compared with the preceding

year. Tuberculosis was responsible for 56·47 per cent. of the carcase seizures and for 38·54 per cent. of the offal seized. Details of the seizures are shown in the following Tables.

Number and weight of carcases in the different classes of animals condemned at Abattoirs during 1928.

	Totally condemned.		Partially condemned.		Total Weight in lb.
	No.	Weight in lb.	No.	Weight in lb.	
Oxen	68	36,200	242	33,356	69,556
Bulls	6	4,039	26	3,799	7,838
Cows	193	89,825	286	42,066	131,891
Heifers	10	4,662	8	1,017	5,679
Calves	21	1,396	3	26	1,422
Sheep	290	10,116	113	1,585	11,701
Swine	100	10,660	95	3,155½	13,815½
Total	688	156,898	773	85,004½	241,902½

Number of carcases condemned in the different classes of animals slaughtered in Abattoirs during 1928, and causes of condemnation.

	CATTLE.												Sheep.	Swine.	TOTALS.	
	Oxen.		Bulls.		Cows.		Heifers.		Calves.							
	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.		
Tuberculosis . . .	44	200	6	23	150	271	9	7	7	2	...	...	43	63	825
Œdema and Emaciation . . .	1	...	...	...	10	...	...	...	...	...	156	55	11	...	233
Traumatism . . .	...	11	...	1	2	5	...	...	...	...	2	23	2	17	64
Septic conditions . . .	1	6	...	...	9	1	...	...	...	...	2	6	1	6	32
Pericarditis . . .	2	1	...	...	2	...	...	...	...	...	...	...	...	...	5
Peritonitis . . .	1	8	...	1	1	6	...	...	...	...	5	...	7	3	32
Pleurisy and Pneumonia . . .	...	7	...	1	3	1	...	...	3	1	3	26	2	6	53
Moribund and Illbled . . .	13	...	...	...	14	...	1	...	7	...	119	...	21	...	175
Jaundice . . .	...	...	...	...	...	...	...	...	1	...	...	...	4	...	5
Neoplasms . . .	...	4	...	...	...	1	...	...	...	...	3	3	1	1	13
Actinomycosis and Actinobacillosis . . .	4	2	...	...	...	...	...	...	...	...	...	...	...	...	6
Melanosis . . .	1	3	...	...	...	1	...	...	...	...	...	...	...	...	5
Swine Erysipelas and Swine Fever . . .	...	...	...	...	...	...	...	...	...	...	...	...	8	...	8
Other causes . . .	1	...	...	...	2	...	...	...	2	...	...	...	...	...	5
	68	242	6	26	193	286	10	7	21	3	290	113	100	96	1,461	

Comparison between tuberculous and non-tuberculous diseases as causes of condemnation in carcasses of animals slaughtered in Abattoirs during 1928.

		CATTLE.						Sheep.	Swine.	TOTAL.
		Oxen.	Bulls.	Cows.	Heifers.	Calves.	TOTAL.			
Tuberculosis .	Total . .	44	6	150	9	7	216	...	43	259
	Partial. .	200	23	271	7	2	503	...	63	566
	Total and Partial . .	244	29	421	16	9	719	...	106	825
Non-Tuberculous Diseases .	Total . .	24	...	43	1	14	82	290	57	429
	Partial. .	42	3	15	...	1	61	113	33	207
	Total and Partial . .	66	3	58	1	15	143	403	90	636

Numbers of Organs condemned in the different classes of animals at Abattoirs during 1928 (excluding organs of animals totally condemned).

	CATTLE.						Swine.	Sheep.	TOTAL.
	Oxen.	Bulls.	Cows.	Heifers.	Calves.	TOTAL.			
LUNGS :—									
Tuberculosis	525	78	1,210	22	17	1,852	233	...	2,085
Other Causes	199	8	64	5	6	282	147	144	573
HEARTS :—									
Tuberculosis . . . .	...	...	...	...	...	...	...	...	...
Other Causes	8	...	...	...	...	8	...	...	8
BOWELS :—									
Tuberculosis	272	33	505	7	...	817	85	...	902
Other Causes	11	...	6	...	1	18	4	2	24
STOMACHS :—									
Tuberculosis	35	6	72	1	...	114	36	...	150
Other Causes	58	5	25	2	3	93	6	7	106
SPLEENS :—									
Tuberculosis	34	6	65	1	1	107	50	...	157
Other Causes	8	...	3	...	1	12	1	...	13
LIVERS :—									
Tuberculosis	230	27	212	9	11	489	213	...	702
Other Causes	7,838	210	797	91	8	8,944	74	416	9,434
KIDNEYS :—									
Tuberculosis	64	12	70	5	...	151	2	...	153
Other Causes	19	13	14	...	1	47	1	2	50
UDDERS :—									
Tuberculosis . . . .	...	...	3	...	...	3	...	...	3
Other Causes . . . .	...	...	196	...	...	196	...	...	196
HEADS :—									
Tuberculosis	711	103	488	30	1	1,333	1,093	...	2,426
Other Causes	76	6	3	...	1	86	1	...	87
Total	10,088	507	3,733	173	51	14,552	1,946	571	17,069

Percentage incidence of Tuberculosis in animals slaughtered at Abattoirs during 1928.

Cattle	Oxen	4·16	Per cent.
	Bulls	21·29	
	Cows	41·84	
	Heifers	6·04	
Calves . . . .	...	0·49	
Swine . . . .	...	6·16	

(d) (1) Wholesale Dead Meat Markets.—During the year meat (fresh and frozen) estimated to be equivalent to 44,824 carcases was imported into the City for sale in the wholesale dead meat markets. In addition, considerable quantities of frozen boneless meat, kidneys, livers, tripe, etc., were received. It is not possible to ascertain with any approach to accuracy the amount of this class of material which arrives in the City. Daily visits of inspection were made to the dead meat markets and to the premises of wholesale meat traders.

Court proceedings were taken in respect of a cow carcase consigned to one of the dead meat markets by a Fife dairyman. The case was defended, but it was proved that the cow in question had been slaughtered when at the point of death, and that she had been the subject of an acute septic affection of the udder for several days prior to slaughter. The consignor was found guilty and a fine of five pounds was imposed.

(2) **Retail Shops, Street Hawkers, etc.**—Periodical visits were made during the year to shops, etc., in which foodstuffs are prepared or exposed for sale.

Number of visits paid to Shops, etc., during 1928.

Butchers' Shops	527
Provision Shops	529
Fishmongers' Shops	173
Fruiterers' Shops	267
Meat Sales and Wholesale Meat Shops	2,031
Live Stock Sales and Markets	260
Street Hawkers	22
Hide and Skin Merchants	690
Fish Markets	310
Restaurants	8
 Total	 <u>4,817</u>

Number and weights of foodstuffs seized in Markets, Shops, and other premises in the City, during 1928.

	No.	Weight in lbs.
Beef	53	7,305 $\frac{3}{4}$
Mutton	90	5,435
Pork	9	685
Veal	16	551
Poultry and Game	8	805
Edible Offal	11	269
Fruit and Vegetables	8	2,068 $\frac{3}{4}$
Provisions	4	148
Fish	2	2,354 $\frac{1}{2}$
 Total	 <u>201</u>	 <u>19,622</u>

(3) **Carcases, etc., submitted for inspection** in terms of Article 7 (4) of the Public Health (Meat) Regulations (Scotland) 1924. This regulation places an obligation on the consignee of a carcase which he has reason to believe has not been inspected in the manner specified by the Public Health (Meat) Regulations, to report its receipt to the Local Authority of the district. In practice, the wholesale meat traders of the City notify the Veterinary Department in all cases in which they receive home-killed carcases from beyond the City boundaries. During the year notification was received in respect of 2,253 carcases. After inspection of these, 119 carcases and 15 parts of carcases were seized and destroyed.

(4) **Approval of Meat Storage.**—Article 12 of the Public Health (Meat) Regulations (Scotland) 1924, requires persons selling meat from vans, carts, etc., who do not also keep an open shop for the sale of meat, to obtain from the Local Authority a certificate of approval of the accommodation provided for the storage of meat overnight. In the City only four traders fall into this category. The storage accommodation provided is in each case very satisfactory and the necessary certificates of approval have been granted by the Local Authority.

PORT FOOD INSPECTION.

The usual supervision has been maintained as to the condition and soundness of foodstuffs landed at the Port of Leith during the year. No feature of outstanding interest has arisen.

The appended summary will serve to show the origin and the kinds of foodstuffs falling under the supervision of the Department at the Port of Leith.

Imported Foodstuffs inspected, under the Public Health (Oversea Meat) Regulations (Scotland), 1925, and the Public Health (Unsound Food) Regulations (Scotland), 1925, during 1928.

Country of Origin.	Foodstuffs.	No. of Consignments.
Holland	Bacon	198
	Cereals	49
	Canned Veal	17
	Fruit	382
	Gut	3
	Lard	21
	Oysters	29
	Provisions	1,343
	Vegetables	824
	Yeast	104
		— 2,970
Denmark	Bacon	105
	Canned Meat	29
	Fish	9
	Fruit	11
	Gut	18
	Hams	35
	Lard	82
	Lunch Tongues	29
	Pigs' Feet	28
	Pigs' Heads	88
	Provisions	402
	Sausages	13
	Yeast	34
		— 883
U.S.A.	Cereals	56
	Fruit	17
	Hams	10
	Lard	12
	Lunch Tongues	11
	Pork and Beans	3
	Provisions	20
		— 129
Canada	Canned Meats	1
	Cereals	51
	Fruit	2
	Hams	20
	Lard	20
	Lunch Tongues	11
	Mince Colllops	1
	Provisions	30
	Pork and Beans	2
		— 138
Iceland	Fish (fresh)	13
	Fish (salted)	51
	Game	1
	Vegetables	4
	Provisions	14
		— 83
Italy	Bacon	1
	Hams	1
	Lard	1
	Sausages	1
		— 4
	Carry forward	4,207

Imported Foodstuffs inspected, under the Public Health (Oversea Meat) Regulations (Scotland), 1925, and the Public Health (Unsound Food) Regulations (Scotland), 1925, during 1928 (*continued*).

Country of Origin.	Foodstuffs.	No. of Consignments.	
		Brought forward . . .	4,207
Belgium . . .	Fruit	69	
	Provisions	103	
	Vegetables	11	
	Yeast	22	
		—	205
Germany . . .	Fruit	64	
	Provisions	102	
	Vegetables	17	
		—	183
Poland	Eggs	1	
Russia	Provisions	1	
South America	Cereals	7	
Greece	Fruit	3	
China	Eggs	1	
Africa	Cereals	1	
Rumania	Cereals	1	
			4,610

Imported Foodstuffs condemned or rejected and re-exported at the Port of Leith, during 1928.

		Weight in lb.	Weight in lb.
Fruit :—			
Cherries		280	
Currants		1,760	
Melons		448	
Pears		1,200	
Raisins		756	
Tomatoes		90	
		—	4,534
Vegetables :—			
Carrots		71,610	
Lettuce		3,340	
Potatoes		147,620	
Radish		2,086	
Turnips		8,560	
		—	233,216
Flour		54,543	
Fish (Salted)		3,786	
Hams and Bacon		560	
Hares		200	
		—	296,839
		Tons	Cwts.
Equal to		132	10
		Lbs.	39

Summary showing total diseased and unsound Foodstuffs dealt with by the Department in the City during 1928.

	Wt. in lbs.
At Abattoirs—Carcasses	241,902½
Offal (weight estimated)	111,405
In Shops, Warehouses, etc.	19,622
At the Port of Leith	296,839
	—
	669,768½
	Tons
Equal to	299
	Cwts.
	0
	Lbs.
	8½

LIGHTING AND CLEANSING DEPARTMENT STUD.

Seven hundred and twenty-five visits of attendance were made to the stud under the control of the Lighting and Cleansing Department, and 23 horses were subjected to inspection and examination prior to consideration of purchase by the Lighting and Cleansing Committee.

COLINTON MAINS AND OXGANGS FARMS.

General supervision has been maintained over the dairy herd and farm stock, and the Staff of the Department have co-operated with the Farm Manager on matters relating to the purchase, management and feeding of the stock. One hundred and sixty-five visits were paid to the farms for the treatment of sick and parturient animals.

S T A F F .

I desire to take this opportunity to express my thanks to the Staff of the Department and my appreciation of the efficient manner in which they have carried out their duties throughout the year.

I am,

Gentlemen,

Your obedient Servant,

A. GOFTON, F.R.C.V.S.,
Chief Veterinary Inspector.

